

American **FORESTS**

The Magazine of Forests, Soil, Water, Wildlife, and Outdoor Recreation

SEPTEMBER 1959

50 CENTS



A Hymn to Wilderness

See Page 9



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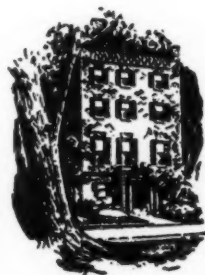
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Art Director

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COVER • *Shangri-La, U.S.A.*—This month is seeing the windup of the 1959 summer exodus to the nation's loveliest mountains, streams, and lakes. Our cover photograph, supplied by Raymond H. Yorton of Fond du Lac, Wisconsin, shows one of those lovely lakes, in western mountains, that have become a summer Mecca for Americans from East to West. In drawing down the curtain on another outdoor summer season, also see the editorial "A Hymn to Wilderness," on page 9.



The AFA

The American Forestry Association, publishers of *American Forests*, is a national organization—independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and the part they play in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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Forest Forum

From An Old Friend

EDITOR:

It was very kind of you to send me an extra copy of *AMERICAN FORESTS* for July which contains my picture on the cover. It was certainly very generous of you to use your valuable cover page for this picture and I, of course, am very flattered to have been included in the group. I also appreciate the fine coverage which you gave the Watershed Meeting.

I am now out on the High Plains where there are no trees except those planted by the hand of man and, being out of public life, I don't have many forestry contacts. I do enjoy reading *AMERICAN FORESTS* as it comes out each month and find it interesting to read not only from the standpoint of keeping in touch with what is going on in forestry and conservation but from the standpoint of just plain interesting reading as well. I thought the July number was an extremely interesting issue and was happy to read the articles about my friends George Aiken and Cliff McIntire.

Clifford R. Hope
Garden City, Kansas

EDITOR:

I read your piece *Watershed Congress—A Million Watersheds* in the July issue with interest until I came on this bit:

"But what can I do?" one D. C. resident asked. Conservationists answer. . . . They can give their support to candidates for office who display an awareness of conservation needs."

WHAT support to WHAT candidates, pray? Candidates for president of the PTA, or the citizens' association, or the amalgamated society of volunteer dog-catchers?

Is it possible that an editor of a magazine published in Washington can be ignorant of the fact that Washingtonians, per se, cannot vote?

For your information sir, we can't. I am a native-born Washingtonian, one of many. We cannot live in two worlds by earning our livings in this city while retaining a voting residence in that happy land of American democracy where, I hear, taxation goes hand in hand with representation, i.e., "the states."

We are taxed—more heavily than a number of states—without any voice either in the rate of our taxation or in the way our tax money is spent; our men are drafted to serve in wars in whose declaration we are voiceless; we pay city expenses for hundreds of thousands—and I judge you to be among them—who earn their livelihood here but are excused from the D. C. income tax to the extent to which they pay taxes "back home."

Yet these "free riders" use the facilities of the city—the schools, streets, and highways, the protection of the sanitation, police, fire and health departments—for which we Washingtonians are shelling out. They not only "ride free," but through their elected

congressmen they dictate the climate of our lives. This is true in the minute details—as, the legal size of rock fish to be taken from the Potomac, as it is in the large—for instance, the elimination of pollution in Rock Creek and the Potomac by the separation of storm and sanitation sewers.

If you believe in that quaint 1776 notion of representative government, you might tell your congressman. He has the right and the present opportunity to return to us the vote of which we were deprived in 1874.

Elizabeth Clagett Clark
5424 Nebraska Ave., N.W.
Washington 15, D.C.

Editor:

I like your articles on watersheds and water and the poems and articles by Jesse Stuart. Keep it up.

Mabelle Isham
1610 W. Highland Blvd.
Battle Creek, Michigan

More On Wilderness

EDITOR:

The articles and letters that you have published concerning the Wilderness Bill have proven most interesting. However, the case has yet to be stated satisfactorily by both sides. Those writing in favor of the bill, while obviously superior to those writing against it, have nevertheless failed to mention several important points. Those writing against the bill have not mentioned the fact that they are representing certain lumbering interests and other special inter-

ests, although this becomes apparent with careful reading of the texts.

The article entitled "A Westerner Looks At Wilderness" printed in the May issue summarized statements of William D. Hagenstein which showed very determined opposition to the bill. These arguments may be listed as follows: (1) that the bill would deprive citizens of their livelihood in certain sections of the West; (2) that the areas set aside under the bill would be lost as a source of raw materials, for the impounding of water for various purposes, and for mass recreation; (3) that multiple-use development of these lands holds more promise for the population in general than the setting aside of these lands for wilderness use.

Regarding the first point, I do not see how the citizens located near these areas can be deprived of income by this bill, for, as I understand it, the areas are not being developed commercially at the present time. How, then, can they be deprived of something that they have not had? In addition, it is curious to find a spokesman for industry showing any concern for what the people of any given area might think. Usually their only concern is "can the people stop us from doing what we want to do?"

Concerning the second point, it is certainly a fact that land set aside for wilderness use would be lost to a large extent for commercial development. What the people of the United States have to decide here is whether or not commercialism is to be the sole arbiter of the way our people are to live. If one will only drive out from his home in any direction he will find commercial development. It permeates the towns, the cities, and the countryside. It seems strange indeed to hear a clamor that these remote and beautiful lands be lumped in with the rest. Where does commercial development stop? Rather than sacrifice these priceless and irreplaceable things to the spectre of rising population (which is certainly no joke), it is far better to begin to take steps now toward the future limitation of population. With regard to the matter of higher standards of living, it is ridiculous to argue that this bill will make for a lower standard of living. As a matter of fact, it can contribute to an immeasurably higher standard for ourselves and for those who follow us. As for mass recreation, it is conducted all over the country. While more room is needed for this purpose, the lands spoken of in the Wilderness Bill would be largely wasted on this use.

The Wilderness Bill is one of the most important pieces of legislation in our time. Clearly, it represents the interests of the people as opposed to special interests, but of far larger significance, the outcome of this bill will have a great bearing upon the direction our country is to take in the future. On the one hand are the interests dedicated to money, to increased popula-

Alaska Fire Expert to Address Convention at Bedford Springs

Mounting concern as expressed by AFA members regarding the Alaskan fire situation has induced officers of the association to invite Jess Honeywell, Area Administrator, Bureau of Land Management, Juneau, Alaska, to address the Bedford meeting and bring members up to date on fire control needs in the new state. Mr. Honeywell will give an illustrated koda-color talk and will present an outstanding collection of aerial views depicting the vastness of the region, the immensity of current fire losses, and the problems presented in the use of manpower and equipment in coping with fires in the region. For further information on Alaska see, "An AFA Fire Plan for Alaska" on page 12.

tion, to increased competition among us for the consumption of "conspicuous goods," to depletion of space in which to enjoy ourselves, to the organization of human activity at every level, to the subordination of all activity to economic interests, and ultimately to war.

On the other hand are those who believe in the freedom of the individual, who believe that man must first improve himself spiritually before he can make lasting progress in the material world, who are slow to see that activity alone indicates progress, and finally those who care to take the time to discern that which is worth preserving from the past while looking forward into the future toward a higher type of existence for us all.

J. Louis Head
1115 W. Calhoun St.
Macomb, Ill.

Brochure Criticized

EDITOR:

Your review (page 54, June 1959 issue) of the new pamphlet "Natural Resources—Their Protection and Development," by Dewey Anderson and associates of the Public Affairs Institute fails to point out the grave danger of this publication.

Its theme throughout is that the owners and producers of natural resources are despoilers and that only government ownership or government controls can protect these resources. In other words, it advocates Socialism.

How shall this be done? After advocating government ownership, the pamphlet says:

"It would be well, also, to consider capitalizing the conservation development program by some more appropriate means than annual appropriations of the Congress in order to provide adequate funds to underpin large conservation programs of a long range character at costs that are low and on terms that will enable resources growth to pay out. For 'trees won't grow as fast as compound interest at six per cent.' But the government has access to low interest-bearing, long term loan funds. The equity behind them through government-owned and ably managed resources would be ample."

In other words, use tax money at low interest rates to compete unfairly with the natural resources industries, put them out of business, and have the federal government own and run them. The disclaimer in the next paragraph does not alter the implication.

The report is full of errors and misstatements. As one example, it states:

"The flaring of natural gas should be prohibited by federal statute, for apparently some states still are not able to get legislation enacted to prevent this waste of a vital natural resource."

Natural gas is now too valuable to be flared when it can be marketed or put back in the ground to maintain the oil-field pressure. The only places it is being flared in the United States today are where the quantity is too small to market or pipeline connections have not yet been made to a new field.

The danger of the pamphlet is that it will probably have a wide circulation and be taken as gospel truth by uninformed persons, including teachers of conservation.

Richard W. Smith, Manager
Natural Resources Department
Chamber of Commerce of the U. S.
Washington, D. C.



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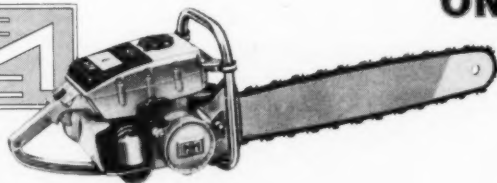
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Trail Riders Deride Quake Exaggerations

Photos by Wide World Photos, Inc.

THIRTY-FOUR AFA Trail Riders on the Teton National Forest-Yellowstone National Park trip—camped on what was described by newspapers as the periphery of the quake zone—were surprised to learn the next morning they had slept through what was described as one of the most severe earthquakes in the park's history.

"Apparently it was severe in Montana, but we didn't feel a thing," Outfitter Ted C. Frome, of Afton, Wyoming, told *AMERICAN FORESTS*. "The first thing we knew about it was the next morning when Bill Daniels, Forest Service lookout at Hawk's Rest, told us Forest Service personnel and helicopters had been dispatched to Madison River."

Continuing on their journey, the riders moved almost immediately into Yellowstone park traveling up Lynx River across the Divide and down the Snake River drainage. While tremors had been reported to be continuing, the riders experienced none.

Most of the quake was a considerable distance from the park, Mr. Frome explained. "In Wyoming everything was right on schedule including Old Faithful geyser." AFA riders concurred. They said it didn't take an earthquake to make a Trail Ride an "earthshaking experience."

While Wyoming damage reports may have been exaggerated, the Madison River area in Montana was badly jolted as these *Wide World* photos show. Crack in surface of Highway is on Route 287



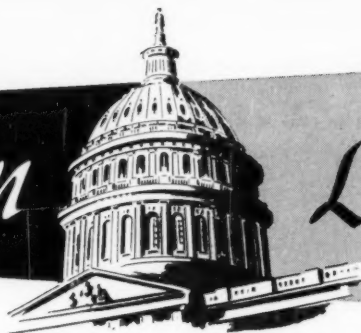
Forest Service, Air Force and other agencies rushed in personnel to help evacuate campers caught in avalanches in the Madison River Valley. Death toll was mounting as *American Forests* went to press



The 8,000 foot mountain below near Hebgen Dam split during the quake and practically became two mountains. At left, dust is shown rising from big rock slides 10 miles east of West Yellowstone due to tremors



Washington



Lookout

By ALBERT G. HALL

FORMULATION OF A NATIONAL CONSERVATION POLICY is proposed in a multi-supported bill introduced by Senator Murray of Montana and 29 others. A similar bill has been introduced in the House by Representative Metcalf of Montana. The measure would create a Council of Resources and Conservation Advisors in the Executive Office of the President, and a Senate-House joint committee on resources and conservation. The President would be required to submit annually to the Congress a report on conservation progress, including policy and program recommendations. The far-reaching objectives of the bill are indicated by its opening statement: "The Congress hereby declares that it is the continuing policy of the federal government with the assistance and co-operation of industry, agriculture, labor, conservationists, state and local governments, and private property owners, to use all practicable means including co-ordination and utilization of all its plans, functions, and facilities, for the purpose of creating and maintaining, in a manner calculated to foster and promote the general welfare, conditions under which there will be conservation, development, and utilization of the natural resources of the nation to meet human, economic, and national defense requirements, including recreational, wildlife, scenic, and scientific values and the enhancement of the national heritage for future generations."

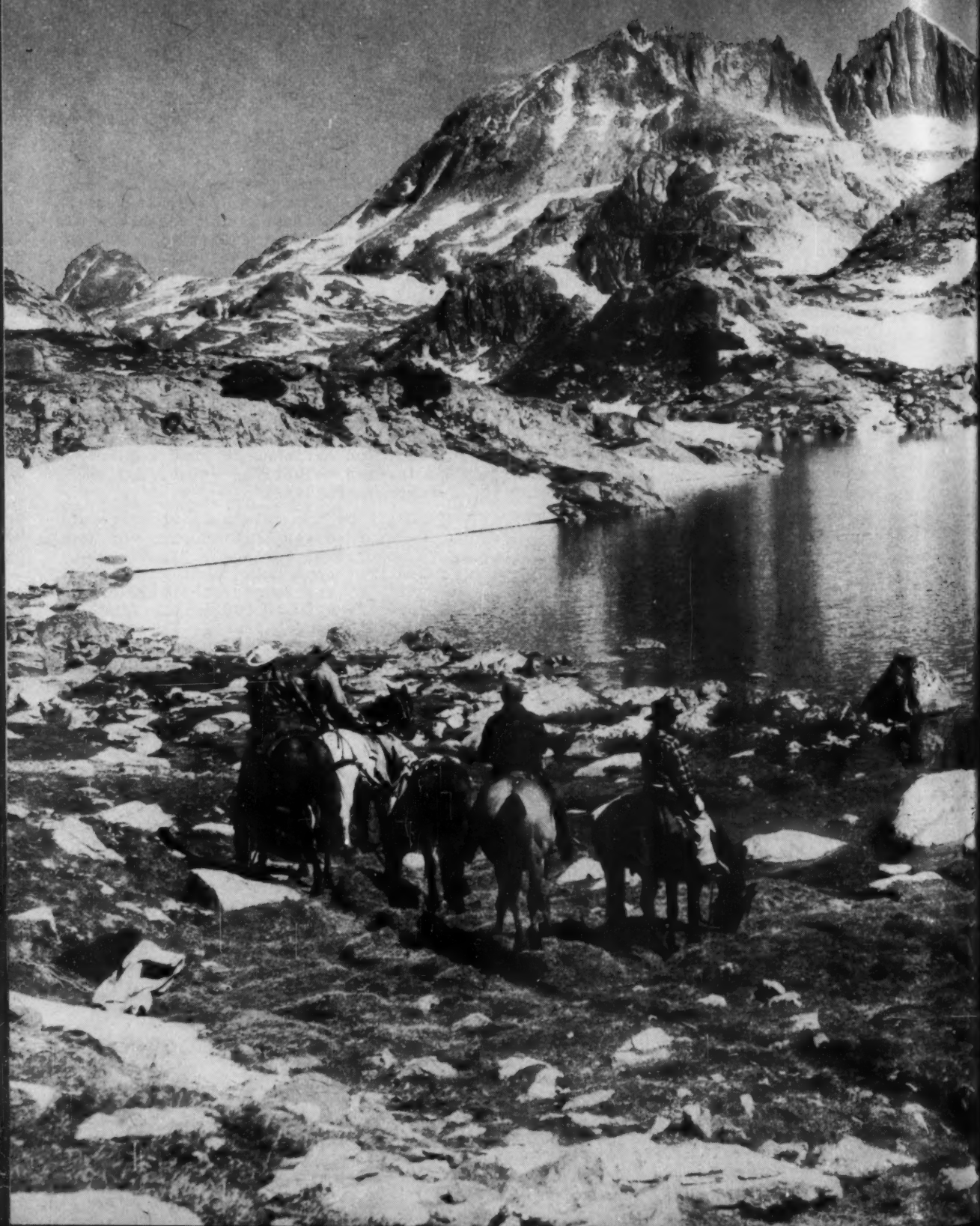
A YOUTH CONSERVATION CORPS HAS BEEN APPROVED BY THE SENATE by the slim vote of 47 to 45. Only two Republicans voted for the measure, Senators Wiley of Wisconsin and Young of North Dakota. Sen. Langer of North Dakota was paired for the bill. Republican opposition to the bill called it a "deceptive boondoggle" that would cost around \$10 billion in the next decade. As passed by the Senate, the bill provides for enrollment of boys aged 16 to 21, starting with 50,000 in the first year, 100,000 in the second year, and 150,000 in subsequent years. The corps would work essentially on federal lands, but would be permitted to work on state lands if the states share the cost. Provision for formal educational activities was stricken from the measure as originally proposed, but job-related vocational training was recognized as an objective. The YCC would be administered by the Department of Labor, with its director having a rank equivalent to assistant secretary who would be guided by an advisory committee of representatives of the Departments of Labor, Health, Education and Welfare, Agriculture, and Interior. Field work would be conducted under the supervision of the federal land management agencies.

A WILDERNESS PRESERVATION BILL may not be reported during this session of Congress. Attempts to amend the bill to make it palatable to many conflicting interests have so sharpened the issues involved that the Senate Committee on Interior and Insular Affairs probably will not have the time, before adjournment this month, to draft a measure that stands a chance of passing. There appears to be little quarrel with the wilderness concept as such—that there should be some areas of public lands set aside now for non-development. How this can be done and still protect the growing western economy is the question that is puzzling the drafters of legislation. (Editor's Note—Meeting on August 28, the Senate Committee postponed further action on the bill until after January. According to the Wilderness Society this was due to a request by Senator O'Mahoney, who has been ill.)

RESEARCH IN INDUSTRIAL USES OF FARM AND FOREST PRODUCTS has been approved by the Senate. The bill provides for an Agricultural Research and Industrial Administration in the Department of Agriculture to guide the placement of federal funds and technical assistance among public and private institutions, the establishment of pilot plants, and trial commercialization of products to be developed for agri-

(Turn to page 56)

Trail Riders on Doubletop Mt. in Bridger National Forest. L. to r., Ranger Ken Symes, Dr. Mary S. Boyden, James B. Craig, and Michael Frome. Vacated horse property of Clint Davis, I. and E. chief, Forest Service, who took this photo



Editorial — A Hymn To Wilderness

Did you ever see a moose in his own kingdom? Well, it's something to remember. Our Trail Riders were camped in the Wind River high country in that "Land of 1000 Lakes" known on the map as the Bridger Primitive Area of Wyoming. Our party of 37 with a train of 83 horses and pack animals had entered the wilderness near Cora, Wyoming, and now, after traveling over Fremont Crossing and the Divide, we were camped on Clear Creek, in the shadow of Old Squaretop. It was late in the afternoon when this big fellow came out of the Engelmann spruce less than 100 yards away and, regal as a monarch, coolly looked us over. He was magnificent. Poised as could be he slowly walked half way around our camp, regarding us curiously all the time. The camera folks went crazy. Then, his curiosity satisfied, he walked back into the spruce and disappeared.

This was one of many highlights we saw in going up over the backbone of the world. We shoveled snow in the middle of July up near the Divide so that the first horses in the train could safely cross a drift-carpeted pass. Our riders negotiated 27 switchbacks on one mountain alone. We threw a line in streams and lakes that smelled of snow and were of such crystal purity that you could see the cutthroats, browns and rainbows streaking about 15 yards out from shore. And the mountains! Who could ever forget the mountains. They were always in view coming up through the aspen and the lodgepole. At Fremont Crossing it appeared that one more big jump would put you up there with them. At Elbow Lake, above timberline, you had established your own personal acquaintance with such peaks as Gannett, the prince of them all, and Fremont, the crown prince.

This is an awesomely rugged country and yet fragile, too. It is as if some great convulsion of the earth had heaved the stone-ribbed peaks up above the earth and had surrounded them with a million streams of frothing water cascading into a thousand or more lakes. Rock is everywhere and yet the area is ablaze with gorgeous mountain flowers growing on soil so thin that you can scrape it up with a teaspoon in many places. The grasses are sparse, and your campground is determined not by where you want to be but by where your horses can find enough to eat. There is much erosion on a huge scale. You travel through passes where the sides of whole mountains have come tumbling down with boulders as large as houses.

A Trail Ride, one soon learns, is not for those who prefer an easy type of outdoor outing. You get bone-tired, or at least we did. The going is rough on narrow trails that, fortunately, are jeep-proof. You get wet. We were pelted by a hailstorm. And yet you would not want to miss these things. There is something awesome about an electric storm in the Rockies. In New Guinea, the natives called this "*guba ea boi-boi*," which liberally translated means "the sky sings out." A storm in the Rockies is like that—a Wagnerian symphony of wild and crashing sound—and it teaches you respect for the forces of nature.

Yet your tiredness is a good kind of tiredness—not the kind that sets your nerves on edge and ties your stomach in knots. You are always near rushing water; your lullaby as you go to sleep is the sound of cascading water and the tinkle of the bells on the pack animals that meander at will around your bed roll taking what blades of grass they can find. The aroma of bacon cooking and coffee brewing wakes you up shortly after sunrise; your face, your bedroll, and all your belongings are damp with dew. The natives in New Guinea aptly called this *hisui*, or "star tears," one recalls. A quick wash in the stream ever at your elbow in the Wind River country clears any cobwebs from your head in a hurry, and you are ready for a lumberjack breakfast.

By the end of the second or third day, depending on your condition when you start, the soreness in those muscles you never knew you had before has largely disappeared, your horse seems to have finally accepted you, and suddenly you feel mighty good. You look around and learn there are some mighty nice people along with you, too, folks from just about everywhere—teachers, housewives, doctors, farmers, businessmen, writers, and office workers. In an amazingly short time, all of these people are on a first-name basis; you know a great deal about them and they know a great deal about you. All are different, yet all seem to complement each other. There are the New York businessman and the botanist, who point out the flowers they know and make notes on the ones they don't know. There are those who show special interest in the history of the area including Fremont, Jim Bridger, the Indian Friday and the story of the outfitter's family, who came to Wyoming in a covered wagon. There are the hikers. There are the fishermen and the fisherwomen. And finally there are the quiet ones; while one does not press, one recalls that throughout history there have been those in India, Greece, Persia, Europe, and in New England who have searched for certain Absolutes that not infrequently have been closely associated with the grandeur of mountains.

These things, one believes, are all good. We saw cares and worries wiped off the faces of people by the magic of wilderness in a matter of days. We heard people singing lightheartedly by the hour around the nightly campfire because they were happy. These things must add up to something substantial in terms of service to society. As a result of unwinding in wilderness and the recharging of human batteries, one imagines that these people go home better parents, better teachers, better doctors, better businessmen—in short, better citizens.

Personally, we find ourself pausing every now and then in the midst of work to sniff the smell of snow and the fragrance of mountain flowers. You remember drinking freely from swift streams, with no fear of being poisoned, and watching the white pebbles stirring restlessly beneath. And once again, as though you were there, you hear the soft sound of rushing water and the tinkle of bells from a remote wilderness across a continent that seems to be whispering over and over, "America, never let me go."

Aspens produce an exceptional number of shoots — 200,000 have been counted on one acre.

When fires or lumbermen destroy the forest, aspen trees seem to explode with root and seed to reproduce in astronomical numbers

By WOODIE JARVIS



NURSE -

FIRST there were the pines, tall and stately, their heavy tops so thickly interlaced that the forest floor was cast in a soft perpetual gloom. Then came the loggers. They felled the trees and carried them away, leaving the slash. The sun dried the slash and made tinder of it and made tinder also of the thick carpet of pine needles laid down over centuries. Then lightning cracked into the tinder and fire roared blood-red through the ravaged land.

At the turn of the century the worst forest disaster area in our country encompassed the vast cut over sections of Michigan, Wisconsin and Minnesota. The pine had been scalped from the land in a few short decades and the fires that followed darkened summer skies year after year. In 1881 my grandfather lost his home in the "Thumb" fire that burned more than a million acres around Michigan's Saginaw Bay. Over a hundred miles north and nearly 30 years later, my mother trembled in terror on the edge of the disastrous Metz fire that swept the northern portion of the lower Michigan peninsula. And at last, where the great pine forests had stood, there was nothing but lifeless plain dotted with charred stumps, like blackened teeth in the skull of the earth.

As a boy seeking firewood I walked those empty plains, pulling the shrunken stumps from their hollowed chambers, scavenging the land for the last single thing of value left there. When I scooped at the lifeless earth, it moved freely under my bare hands, a dull yellow sand killed by fire.

But scattered aspen trees had been present almost universally in those original pine forests around the Great Lakes. Now they came from retirement to perform the task of reforestation. And to retirement they will return when the task is done.

Recently I returned to the plains of my boyhood. A thick green forest transforms the land, a tall stand of trembling aspens that hovers protectively over a sturdy understory of new conifers. I kicked at new soil, now a rich forest duff of

fallen leaves, crumbling twigs, powdered logs. Deer browsed among tender shoots and grouse flushed when I approached. Today in these three states there are 18 million acres of aspen forest. Land ravaged by fire is following nature's cycle of reverting to original growth of pine and hardwood. And I know that my children and their children will walk again in forest lands brought back to life by the aspen tree.

What is this marvelous tree, this healer of the fire-ravaged land? To the Anglo-Saxons coming to the British Isles it was the aspen; the ancient Romans called it *populus* or poplar, the tree of wide distribution. In the United States there are two main types, quaking aspen and big tooth aspen, distinguished primarily by leaf size and serration. Both types grow in the East, but in the western states the trembling aspen, also called quaking aspen, predominates. Throughout the United States and Canada, members of the poplar family are known by more than 30 local names.

Since aspens love the sun, they are present in forests only as scattered sentinels; but when fires or lumbermen destroy the forest, these trees explode with root and seed to reproduce in astronomical numbers. Their work begins as soon as the great trees fall and let in the light. There are in aspen roots, as in no other common forest species, great numbers of dormant buds that remain quiescent so long as they are shaded, but respond to the sudden stimuli of warmth and light with thousands of shoots.

The aspen's main roots are two to four feet deep, but in their lateral course they weave a shallow horizontal web that sometimes spreads 100 feet from the parent tree. Nurtured by this already established root system, growth rate of the new young trees is phenomenal: in a single season the saplings spurt up higher than a man's head. At the end of the third season they are 15 feet tall and in the short space of 30 years there is a new forest of aspen trees sometimes 90 feet in height, if the soil is rich enough to support such growth.

To the aspen, a forest fire serves as stimulant: when fire kills their crowns the roots produce another growth of shoots that may number in the tens of thousands instead of thousands. Scientists have counted as many as 200,000 new shoots in a single acre of burned-over ground. From this prodigious start, perhaps 1,000 trees will live to form an acre of forest.

But, no matter how thickly the roots reproduce, the aspen need not rely on its root system alone to reforest the vast areas scorched by fire. Its seeds, growing in small, pointed cylindrical pods, are fantastically plentiful: tiny brown flakes so tiny and weightless that more than three million of them are required to make up one pound of weight. Attached to each seed is a half-inch tuft of white fluff that serves as a parachute. When the seed pods ripen and burst in late May and early June, the air is filled with a

(Turn to page 44)

The aspens' growth rate is astounding. In just 30 years they may reach 90 ft.



Tree of the Forests

SEPTEMBER, 1959

An AFA Fire Plan For

ALASKA

By KENNETH B. POMEROY

Chief Forester, The American Forestry Association

LAST month AMERICAN FORESTS reported the alarm of conservationists over the continued lack of adequate fire protection for federal forests in interior Alaska and the steps being taken to secure some improvement. General Wilton B. Persons, the assistant to President Eisenhower, acknowledged recommendations of The American Forestry Association as follows:

"Thank you for your further letter concerning the fire suppression facilities in Alaska. I have asked the appropriate executive agencies to carefully analyze your suggestions.

"Needless to say, we all hope that further disastrous fires can be avoided or mitigated."

Early in July the Bureau of the Budget questioned Department of the Interior officials again and made new recommendations to Congress. The text of the Budget's recommendation is unknown but there are rumors that the Senate Appropriations Committee may restore the \$250,000 cut in regular fire funds by including this sum in a supplemental act. This action will permit the protection work to be continued at last year's level during the current fiscal year. But it makes no provision for the future.

Early this Fall, the Bureau of the Budget will begin reviewing the plans of all agencies for Fiscal Year 1961. These will be adjusted and coordinated into the President's message to Congress in January, 1960. His suggestions will receive careful study in both Houses. As Senator Hayden, chairman of the Senate Appropriations Committee, said in the Senate when questioned on June 8, 1959 about the shortage of BLM fire funds:

"On its face, this appears to be an emergency program which ought to be cared for. Unfortunately, we did not have a budget estimate for it."

Therefore it is time to review the

values at stake and present a plan for basic protection.

In 1867, the United States paid Russia \$7,200,000 for some 375,000,000 acres in Alaska. About 98 per cent of the land still is in public ownership—yours and mine.

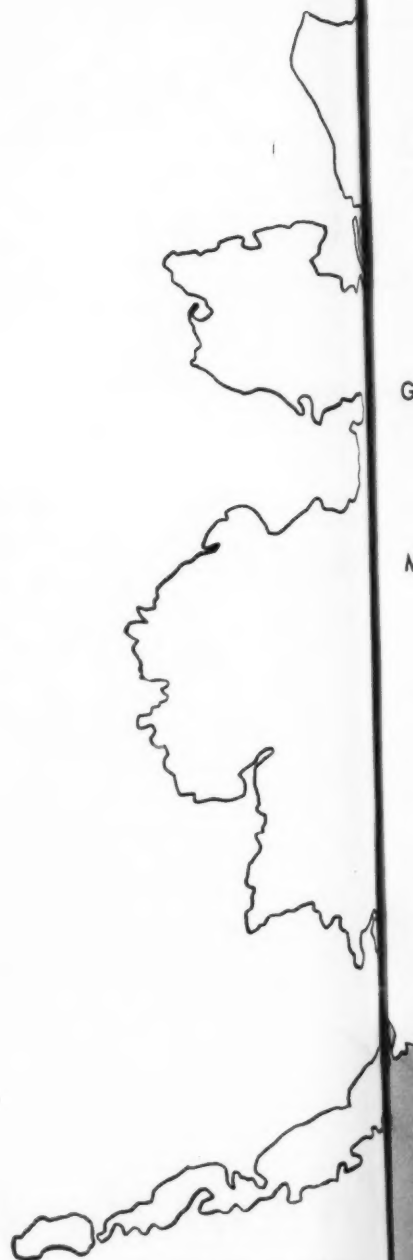
Today the annual income from the resource-based industries, agriculture, fishing, furs, mining, timber, and tourism, is estimated at \$200,000,000. This is equivalent to a 53 cent annual return on a 2 cent per acre investment. If capitalized at a 4 per cent rate of interest the indicated value today would be \$13.25 per acre.

This estimate is high when applied to the 125,000,000 acres of forest land and 100,000,000 acres of range land in interior Alaska. But the region does have important wildlife values now and the forests will be useful as soon as they become accessible. Even now there is an operating sawmill within 50 miles of the Arctic Circle cutting good quality white spruce.

Protection of these resources would seem to be of great importance to the future development of Alaskan economy. Yet in the current year less than two-tenths of a cent (\$.0017) per acre has been provided for all fire prevention and suppression activities.

By comparison, the co-operative federal-state-private expenditures in 44 other states to protect 398,000,000 acres in 1958 averaged 13.1 cents per acre. These expenditures ranged from a dime an acre to protect the muskegs of northern Minnesota to well above one dollar per acre for the brush-lands of southern California. Protection of rangeland in Oregon costs about 20 cents per acre. These are the amounts spent in individual states for the protection of private lands within their boundaries.

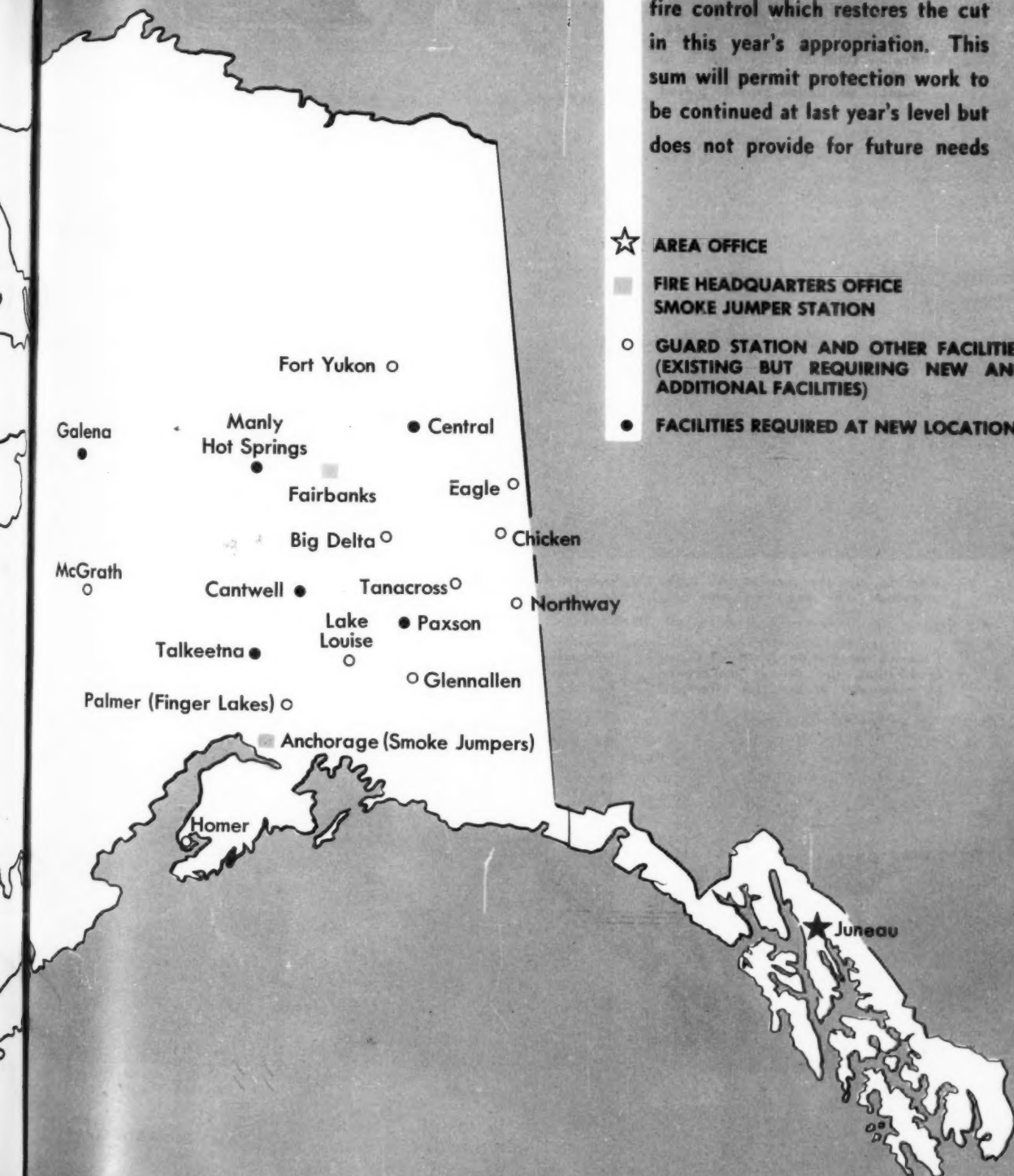
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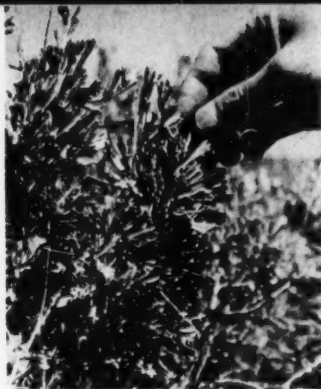


SKA

News Flash: As American Forests went to press the conferees voted an additional \$250,000 for Alaska fire control which restores the cut in this year's appropriation. This sum will permit protection work to be continued at last year's level but does not provide for future needs

- ★ **AREA OFFICE**
- **FIRE HEADQUARTERS OFFICE
SMOKE JUMPER STATION**
- **GUARD STATION AND OTHER FACILITIES
(EXISTING BUT REQUIRING NEW AND
ADDITIONAL FACILITIES)**
- **FACILITIES REQUIRED AT NEW LOCATIONS**

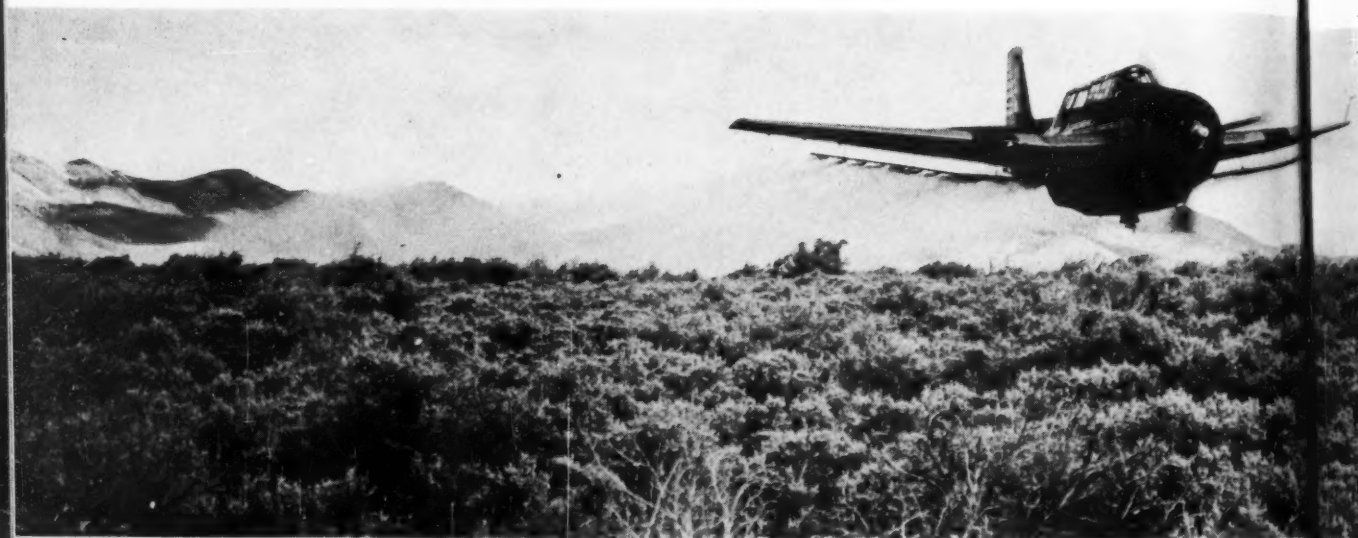




Proper time to spray sage is in early summer, immediately after plant's maximum growth period

De-Spicing

WESTER



Roaring over the sage at 140 mph, this converted Navy torpedo bomber can spray 2000 acres in one morning. The most accurate results are obtained from a flight level of between 50 and 100 feet

Before a range is approved for sage eradication, the site is inspected by personnel of agencies affected



Ground personnel lay long strips of white paper to mark boundaries for the aerial spraying operation



Constant communication is required between rangers in field, pilot and air strip from which plane operates



The aromatic sagebrush plant, long associated with range lore, has become a menace to the western lands by crowding out valuable cover on watersheds and ranges

ERN RANGES

By FRANK A. TINKER

THE fragrant sagebrush may be a sacred object to the many avid and trusting readers of "westerns," adult or otherwise, but to the Wyoming rancher and to the Forest Service it is just another interloper on certain ranges, crowding out more valuable cover. To even the score, the Forest Service has called for aerial support; since 1950 its program of sage-spraying has been growing apace and has now reached proportions which require explanation to cattleman and conservationist alike.

In Region Four, which includes parts of Utah, Nevada, Wyoming, and Idaho, over 29,000 acres had been bombed with 2,4-Dichlorophenoxyacetic acid by the time the propellers of spray planes had unwound this year. This represents an increase of nearly 100 per cent over the year before but still may be only a beginning. Following the lead of the government, many private ranchers have undertaken their own spraying and have probably treated twice as much range as the Forest Service. In all, some 700,000 acres have been plotted in this region which would benefit from such sage eradication— all within national forests. Whether they will be sprayed eventually, and

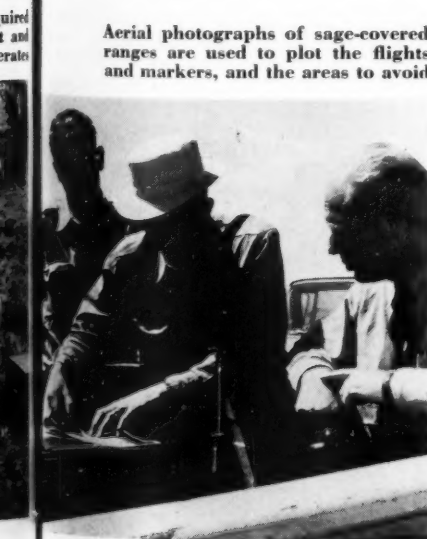
whether private lands will be given this opportunity to return to full forage production, will depend on the long-term results of this program and the public approval thereof.

The risks of aerial spraying are well known: in the terrain which the Forest Service administers these risks are multiplied. Since the program began in this area, five planes of the lighter, lower-powered type have been lost, with two fatalities, raising the inevitable question of whether the advantages of the aerial program warranted the cost. Since most of the accidents had been caused by aircraft stalling from the slow speeds and high altitudes at which they were operating, a requirement for such contracts now includes engines of at least 450 horsepower. By shifting to larger equipment a greater safety factor seems to have been provided.

Roaring over the ranges for the last two seasons has been a converted Navy TBM—a torpedo bomber which can jettison its tanks of spray if necessary and, should the occasion arise, could probably fly through a sizable thicket of aspen without losing its wings. Most important, however, has been the greater pay-
(Turn to page 48)

Aerial photographs of sage-covered ranges are used to plot the flights and markers, and the areas to avoid

Although picturesque, sagebrush precludes efficient range use. The plant is an interloper and is a definitely limiting factor for western users of these ranges



COMMENCEMENT Day came early this year in the South—for 92 simultaneous ceremonies in forest education. It was Pulp and Paper Day, April 14, 1959, but the valedictorian in each case was a farm woodland. Its name—the Pilot Forest; its future—unlimited.

This future is indicated by its place in the national picture. Nearly a third of the commercial forest area of the first 48 United States is on farm-sized properties in the South, and in the court houses of a thousand county seats are recorded a couple of million deeds to prove it. Between the lines of this legal language is a message of opportunity—for the people who own this forest, for the people who live in the com-

munity, and for the industries which make forestry on this land possible.

As a citizen of the South, the pulp and paper industry has read this message loud and clear for a quarter of a century. For the last two decades, through the Southern Pulpwood Conservation Association, it has acted on this message, and again, on April 14, member companies took another giant step forward.

Two years ago the first Pulp and Paper Day was planned to focus attention on the impact of the industry on the economy of the South. It was first observed on April 15, 1958. In planning the second annual observance, the decision was made to emphasize the opportunities of forestry on the smaller properties

throughout the region. This was a logical follow-up and it was in keeping with the association's traditional activities in the encouragement of forestry on lands owned by private individuals.

The launching of 92 permanent farm-sized Pilot Forests had two objectives. The primary target was the owner of this type of woodland, which accounts for 74 per cent of all of the forest land in the South. Of this amount an estimated 86 million acres may be improved to the extent of at least doubling productivity. The second objective was to reach the person whose present image of the forest is that of a vast expanse framed in a setting so distant as to be removed from the every-

PILOT FORESTS POINT

Pilot Forest advisory committee assisting Chairman Paul J. Gates, second from left, forester of The Mead Corporation, are (left) H. C. Green, Gates, T. M. Cross, J. W. McClain, Claude Prince, Geo. Muller



day windshield experience of people.

Each Pilot Forest was sponsored by a local pulp and paper company, and all of the initial work and expense required to start it on the road to peak production was borne by that company. As it finally developed, the average size of the 92 projects was 88 acres of woodland. To have them all ready for the April 14 launching in 12 states across the South required organizational meetings of the company representatives to decide who was to do what and where. First, each company determined how many projects it would undertake, and the location it preferred. Then, adjustments were made to prevent duplication, and a list for each state was agreed upon

which showed the name of the county for each Pilot Forest along with the name of the sponsoring company. The company then named one of its foresters as the Pilot Forest chairman for each project.

When this story was made public, there was no turning back, and the chairman learned early in the game that he would be practicing forestry in a goldfish bowl. His first step was to visit the county seat and to invite public agencies working with the farmer to serve on an advisory committee for the project.

One of the first orders of business of the committee was to decide upon a method of selecting the farm on which the Pilot Forest would be located. This meant opening the



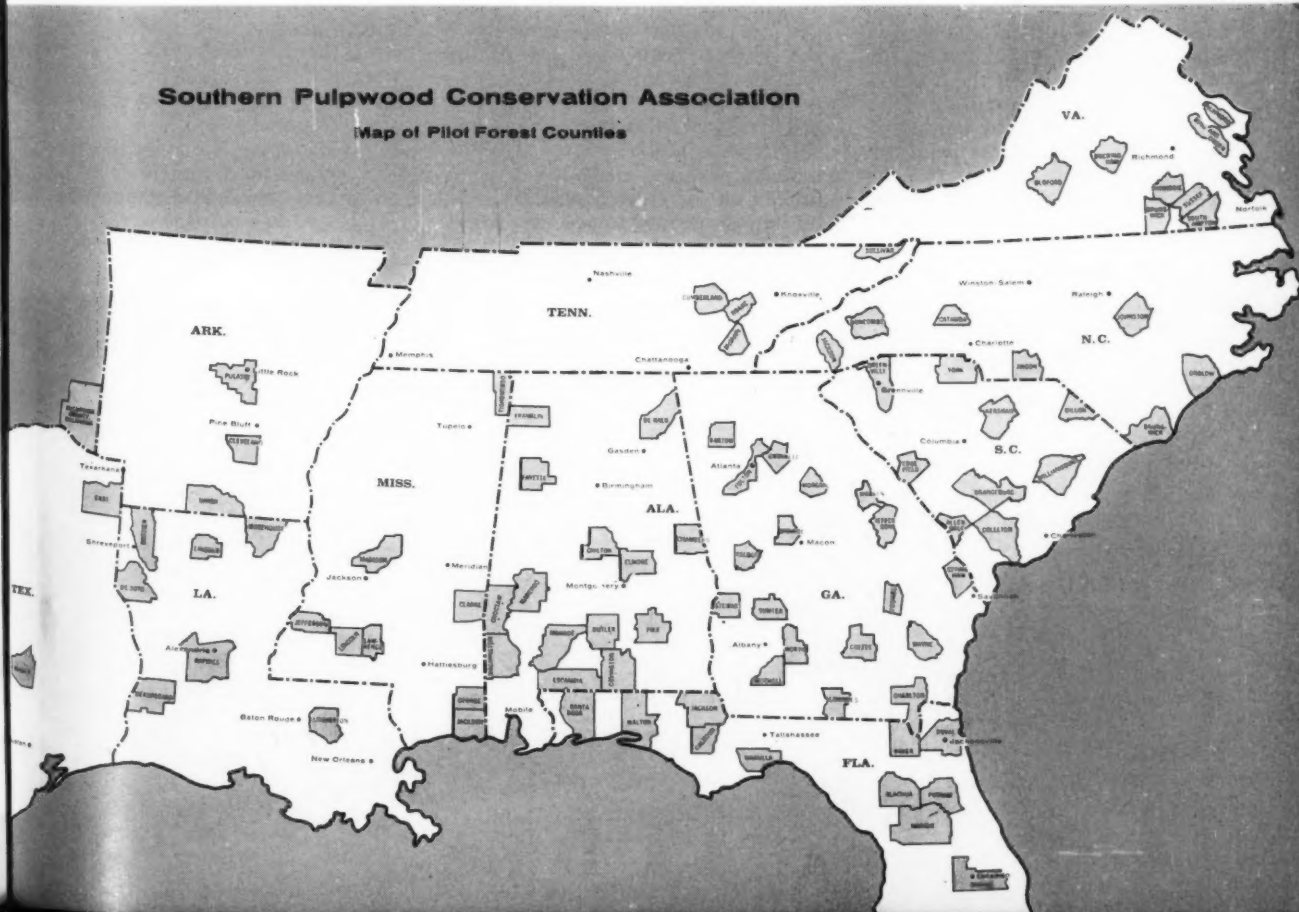
Pilot Forest Family—Mr. and Mrs. M. W. Griffin, with their children, Clarke County, Mississippi. International Paper Company sponsors this Pilot Forest

THE WAY

By H. J. MALSBERGER

Southern Pulpwood Conservation Association

Map of Pilot Forest Counties



mail of all of those landowners who had heard about it and wished to be considered. A variety of methods was used, as each committee worked out its own plans.

The count-down for the Pilot Forest chairman had started with his appointment, but time began to have even more meaning after the farm was selected. At this point, April 14 was still months away, but rehabilitating a forest is not done in a hurry. It was to be a typical farm woodland, representing as many of the recommended forest practices for that area as possible. This meant problems—problems to be tackled in public view. Local interest began to mount as men moved supplies and equipment into the area.

Cold weather and winter rains also moved in. In several instances access roads had to be constructed to the Pilot Forest. Then there was the matter of using equipment in the forest. Sometimes a tractor would bog down and another would be required to get it out. Fire breaks, which would normally have been plowed in the drier period in the fall, had to be constructed in wet weather. With this exception, most of the work was normal and subject to the same hazards incident to any timber operation which these industry foresters were accustomed to coping with on company lands.

The big difference was being on stage while getting ready for the grand opening, and the audience was already beginning to gather. Mothers

reported that the children could hardly wait to get home from school to see what progress had been made and to watch the operations. They were particularly interested in the provisions being made for wildlife. Windrows, edges, and den trees began to acquire special meaning. They learned new names, too. Multiflora rose, partridge peas, Lespedeza thunbergii and bicolor became common words around many of the Pilot Forests. They learned that forest management includes planning for many uses of the land.

Curiosity was not confined to the farm. Around the county court house and the barber shop, the Pilot Forest became the talk of the town long before the curtain would rise on Pulp and Paper Day. Strange goings-on had occurred before, but nothing like this. Why would the pulp and paper industry be interested in a farm woodland producing saw logs for lumber, poles for utilities, piling for construction, and all of the other products being planned on the Pilot Forest? People could understand pulpwood, but these other products! And what about doing all of this work for a farmer for nothing—and his getting the proceeds that would come from the sale of products as part of the forestry operation! It was something to talk about.

There were also questions to answer, and answered they were. The local newspaper editor had been briefed on the entire operation, and he helped people to see this forest

taking shape in its proper perspective. For example, in Mississippi, the Pascagoula-Moss Point *Star* explained, "The Pilot Forest project is part of a South-wide educational program sponsored by the Southern Pulpwood Conservation Association and designed to demonstrate to landowners proper woodland management practices."

In North Carolina, the Smithfield *Herald* editorialized:

"A Pilot Forest on the farm of Cleon Boyette in the Glendale community will be dedicated Tuesday, a news story in the *Herald* says.

"Dedicated? A new church customarily is dedicated—to the service of God. A new school is dedicated—to the service of children in need of an education. But do you dedicate a forest?

"In this instance, yes. The Pilot Forest on the Boyette farm, in truth, will be dedicated—to the service of farmers and all who depend upon farmers for economic well-being.

"Tuesday's dedication will be no less important to the economy of this region than the launching of a sizable new manufacturing enterprise."

Person-to-person answers were also forthcoming from members of the Pilot Forest advisory committee. The county agent, personnel of the Soil Conservation Service, State Forest Service members, teachers of vocational agriculture, representatives of the U. S. Forest Service and others served as members. The

(Turn to page 52)

The 400 people attending ceremony at M. W. Griffin Pilot Forest heard an address by Dr. William D. McCain, president of Mississippi Southern College



Den tree left on Griffin Forest reveals an appreciation of wildlife value



Writing that she had never been in a forest, Barbara Resler, Okla., is visited by Int'l Paper Co. forester



The value of pulpwood in thinning for greater total productivity is explained



Barbara Resler was taken to McCurtain County, Oklahoma to see her first forest



Food patch for quail is planted to Lespedeza bicolor on edge of forest

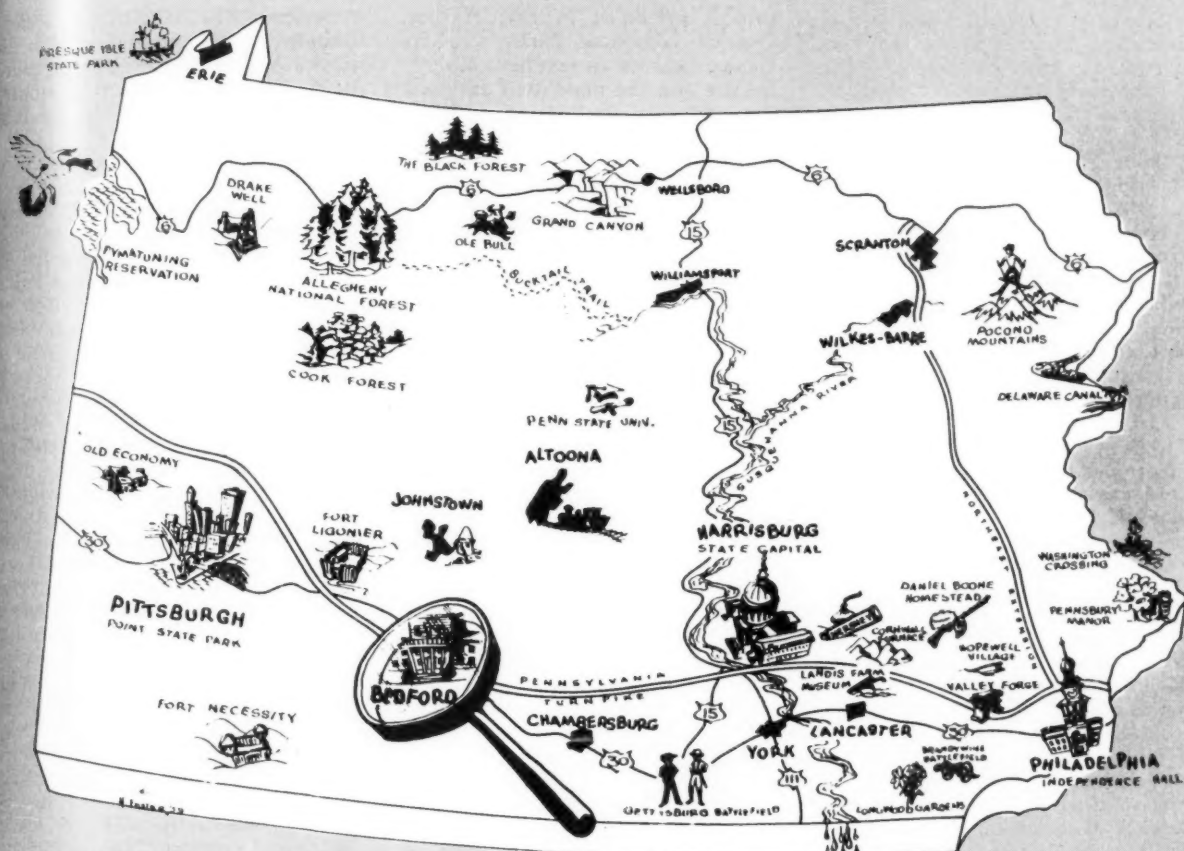


Forest access road required some 450 yards of gravel because of the sub-soil condition of area

Landowner T. M. Cross stresses values of timber to group visiting Pilot Forest project







Pennsylvania's "TRAIL OF HISTORY"

By RALPH R. WIDNER

OCTOBER is the best time of year in Pennsylvania.

The old stone homes of the manicured Penn country outside Philadelphia—many of them built in the 18th century—are at their best in autumn dress.

Up in the Alleghenies, in the Black Forest and Canyon country, the maples and aspens put on a show of color that not even New England can rival. In tribute to this extravaganza of nature, the little towns

along the "Bucktail Trail" (U.S. 120) join in a Flaming Foliage Festival.

The Farmers' Markets which dot the eastern half of the state are filled to overflowing with the unbelievably rich harvest of the Pennsylvania Dutch. Quarts and quarts of apple butter, some of the best cider you've ever tasted (Johnny Applesseed got his seeds from the cider presses of Pennsylvania), pot cheese, fruit pies (also shoo fly pie), Lebanon-bologna, scrapple, and dozens of other local specialties fill the counters.

October temperatures are just

right, too, for a tour of Pennsylvania's two great cities, Philadelphia and Pittsburgh. Both cities are in the throes of dynamic re-development—outstanding examples in the nation of urban conservation at work.

Name your interest and you are sure to satisfy it somewhere in Pennsylvania, for the great distinguishing characteristic of the Keystone State is diversity.

"Here is America in all its variety," John Gunther once said of Pennsylvania, and it's true.

To many out-of-staters, Pennsyl-

Home of David Rittenhouse, famed 18th century astronomer and mathematician, located at Wissahickon, Pennsylvania

vania is the place with lots of coal mines and blast furnaces, but it is in reality a great deal more.

Take our history, for instance. There isn't a state more packed with it.

Name the great wars of early American history and you will find in Pennsylvania the battlefield where the outcome was largely determined.

In 1754, during the French and Indian War, George Washington assumed his first command and was baptized under fire at Fort Necessity, now a state park on U.S. 40 in southwestern Pennsylvania.

At Bushy Run Battlefield, just off U.S. 30 east of Pittsburgh, British forces defeated the Indians in a famous battle which raised the French siege on Fort Pitt and opened the way for settlement of the West.

Colonial cannons stand watch today over the mud huts which sheltered Washington's Continental Army during the bitter winter of 1777-1778 at Valley Forge. "No spot on earth, not the plains of Marathon, nor the passes of Sempach, nor the place of the Bastille, nor the dikes of Holland, nor the moors of England, is so sacred in the struggle for human liberty as Valley Forge," C. T. Brady has commented. Today Valley Forge is preserved as a state park, easily accessible from the Pennsylvania Turnpike.

Other battlefields of the Revolution stand close by points of interest to the Pennsylvania visitor.

Brandywine Battlefield State Park, just off U.S. 1 southwest of Philadelphia, for instance, is near Longwood Gardens, one of the world's most outstanding horticultural exhibitions.

Washington Crossing State Park, north of Philadelphia on the Delaware River, contains an excellent wild flower preserve and nature museum as well as points of historic interest.

AFA members interested in exploring Pennsylvania's northwestern corner on Lake Erie will find an important monument to the War of 1812, together with one of the best multiple-purpose recreation areas on the Great Lakes. Presque Isle peninsula juts out into Lake Erie sheltering one of the few natural harbors on the lake. It was in this bay that Commodore Oliver Hazard Perry built the tiny American fleet which triumphed over the much larger British force in the Battle of Lake Erie and gained American control of the Great Lakes. Today Perry's flag-

ship is preserved in Erie Harbor. Presque Isle State Park's scrub-to-climax forest is an excellent ecological site and the park itself affords a host of recreational opportunities.

Gettysburg stands with Valley Forge as one of the two great testing grounds of the nation. It is located conveniently for those who are driving to Bedford Springs from the south or the east, as it is only a short jaunt from the Pennsylvania Turnpike.

"We have come to dedicate a portion of that field as a final resting place for those who here gave their lives that the nation might live," Lincoln said. Today Gettysburg, together with Valley Forge, is a hallowed place in the American memory, the most completely marked battlefield in existence. A stone wall marks the high water mark of the Confederacy.

Battles, of course, are only one aspect of history. Pennsylvania is also full of other monuments to the American past.

As an example, take the few blocks surrounding the Independence National Historic Park in Philadelphia.

Immediately surrounding Independence Hall are: Carpenter's Hall, the first meeting place of the Continental Congress; the First Bank of the United States, the oldest bank building in the country; the Second Bank of the United States around which controversy raged during Andrew Jackson's administration; Philosophical Hall, home of the

American Philosophical Society founded by Benjamin Franklin; Elfreth's Alley, oldest residential street in the nation; the Betsy Ross House; and a number of old and historic churches.

Not to be outdone by its sister city, Pittsburgh is engaged in restoring its historic heritage. The bastions of old Fort Pitt and the site of Fort Duquesne are being restored in the heart of Pittsburgh's new Point State Park at the head of the Golden Triangle where the Allegheny and Monongahela Rivers join to form the Ohio.

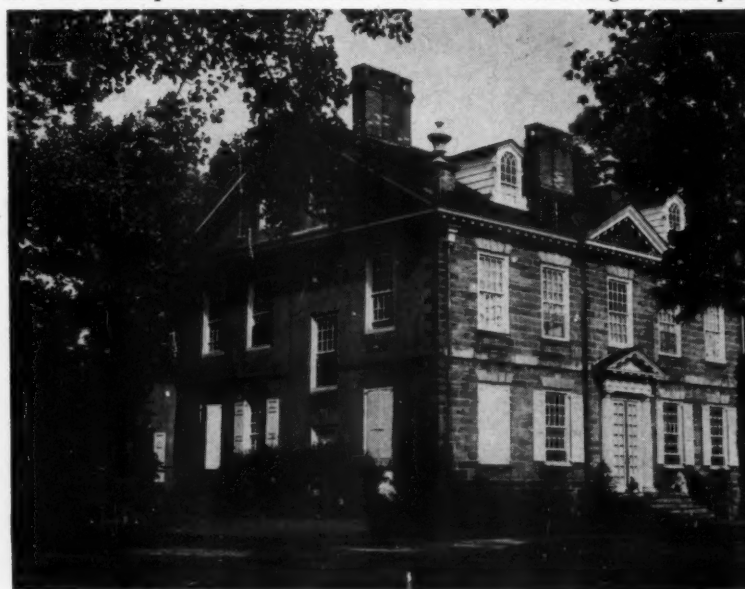
One prominent historian has stated that Pittsburgh's Point is one of the three most history-laden spots in America. It was here that the British defeated the French for control of North America west of the Appalachians and altered the course of history. In later years, the Point became the "Gateway to the West," the jumping-off place for trail blazers and the stream of pioneers that followed.

Pennsylvania contributed much to the western movement—after all, it was the first frontier.

The Conestoga Wagon was born in Lancaster County's Conestoga Valley a hundred years before its descendant, the Prairie Schooner, made the trip to Oregon. The deadly accurate "Kentucky" rifle, the frontiersman's best friend, was also the product of Pennsylvania Germans at Lancaster.

Daniel Boone was a Pennsylvanian, raised for his first 16 years on a

Excellent examples of splendid colonial residences line the bluffs above Schuylkill River in Philadelphia's Fairmount Park. Fairmount is world's largest municipal park



homestead near Reading, Pennsylvania, which is preserved today by the Pennsylvania Historical and Museum Commission along with a number of other pioneer homesteads.

There is so much of historic interest in Pennsylvania that the Historical Commission has laid out a "Pennsylvania Trail of History." There isn't a part of the state it does not touch.

Fortunately, the backbone of the "Trail" is U. S. 30, the Lincoln Highway, and Bedford, site of this year's AFA Convention, is on U. S. 30 midway between Philadelphia and Pittsburgh. Every town on the route has some significance historically: Lancaster, haven of the Continental Congress and breadbasket of the colonies; York, capital of the colonies for a brief time and birthplace of the Articles of Confederation; Gettysburg and Chambersburg—both with important roles in the Civil War; Bedford itself, Washington's headquarters during the Whisky Rebellion; Ligonier, site of an important British fort—the list is endless.

If you are driving, you can see much of the "Trail of History" by short detours from U. S. 30 or from the Pennsylvania Turnpike, which parallels it. At each end of the turnpike information booths will provide you with road information and tourist data.

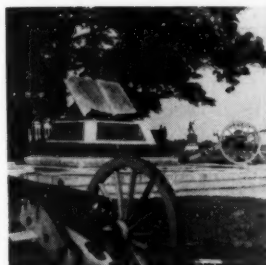
Those driving to and from the east should take the opportunity to follow the Delaware Canal south

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Interior of the Daniel Boone homestead near Reading where Boone lived for sixteen years



Officers' hut at Valley Forge restored some years ago from Washington's specifications

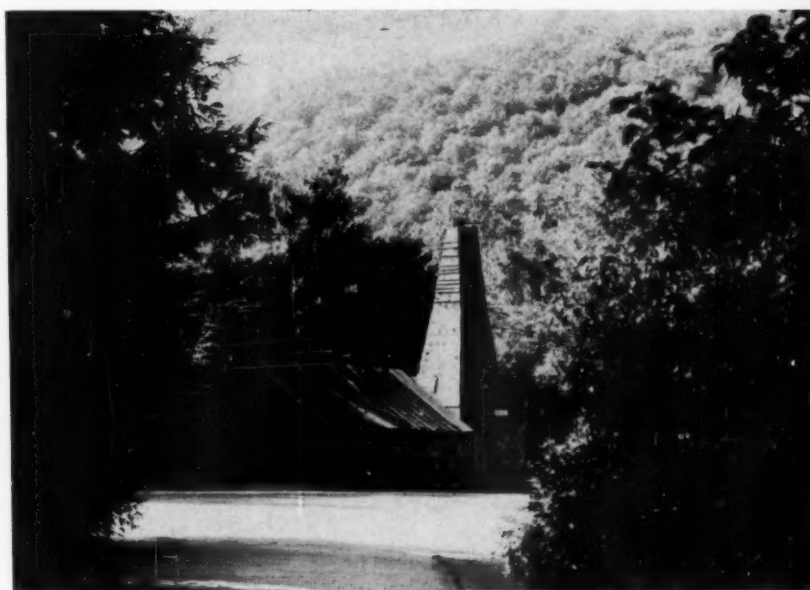


Confederate monuments on battlefield at the Gettysburg National Military Park

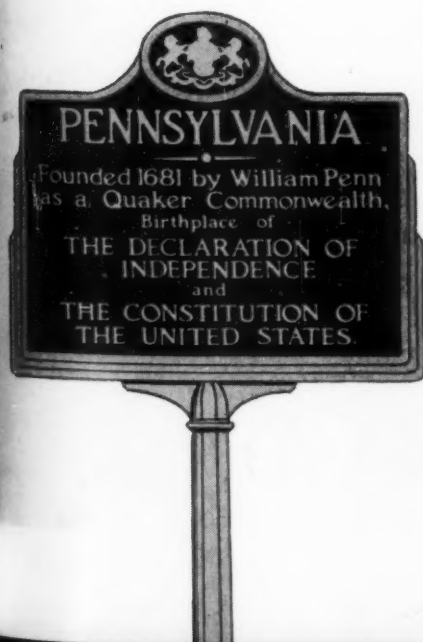


Old water wheels, colonial homes and quiet towns line the Delaware Canal

Drake Well, the first well ever drilled for oil, was drilled 100 years ago at Titusville



Blue and gold sign welcomes visitors



GLEN ECHO

—50 Years of Fun

Photos by Vincent Finnigan



GLEN ECHO" is a magic word to Greater Washington area children. For 50 years this amusement park has entertained one million people annually, 70 per cent of them children. The importance of wood in the construction and maintenance of an amusement park can't be overestimated. The big coasters (right), the biggest money makers, are constructed almost entirely of wood. No other material will do. For cars that hit maximum speeds of 86 miles an hour, the resiliency of wood underpinning is a must. Metal and other materials are too rigid. Each year, according to Engineer Emory C. Crouch, Glen Echo uses thousands of board feet of Georgia pine, poplar, beech, and oak for construction of platforms, railings, and general maintenance work. Most of the star rides such as the exciting "Satellite Jet" are imported from Germany, which today has a corner on this type of business. (See the "Comet Junior," lower left.) One problem is maintenance of 50-year-old Merry-Go-Round calliope (left). Old-time craftsmen are vanishing from the American scene, much like famous old No. 20, the Cabin John street car line, that has served Glen Echo throughout its history.





What basic ingredient makes an amusement park go?

The answer is wood. Glen Echo required one million

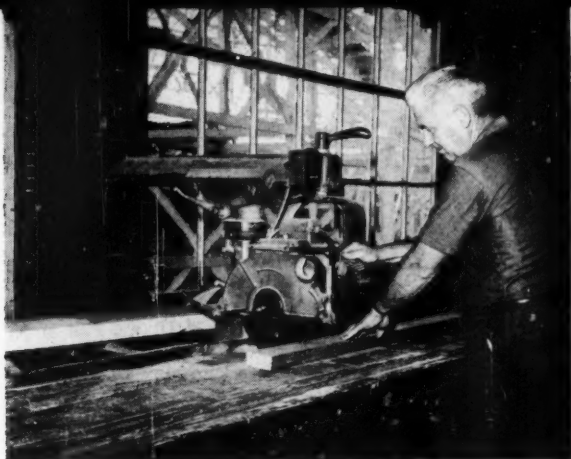
board feet of lumber to build, 25,000 feet annually

Built 50 years ago, much of original wood remains in Glen Echo coasters. Two inspectors walk entire track every morning; similar inspections are made by insurance men and engineers weekly. Painting coasters takes 500 gallons

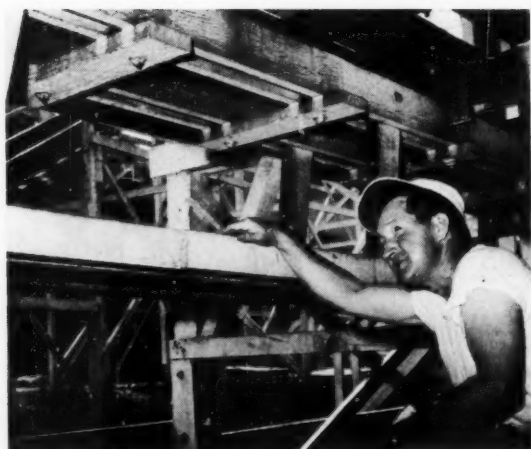
GLEN ECHO — 50 Years of Fun

Trees at Glen Echo are carefully protected. While park surface is black topped, breathing space is provided for trees as shown at right. All picnic tables used by park are made by its own maintenance staff which works year around





Engineer Crouch, shown in woodworking shop, says use of labor may double next year if development plans for park swimming pool go through. He plans to encircle pool with big sun decks



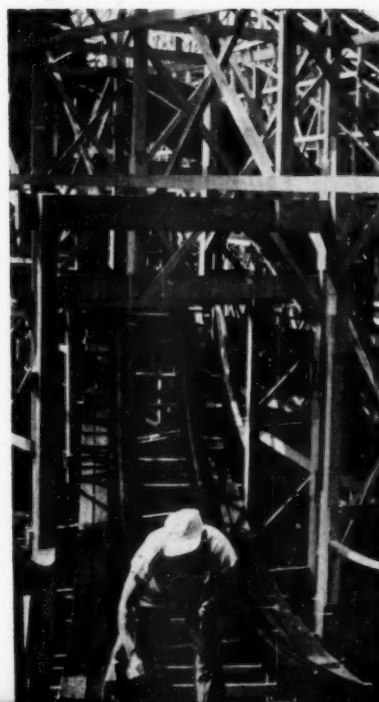
Norman Best (above) "walks the track" on the coaster making daily inspection. Wood is everywhere at Glen Echo, including the best maple ballroom in Washington area covering more than 7,000 square feet

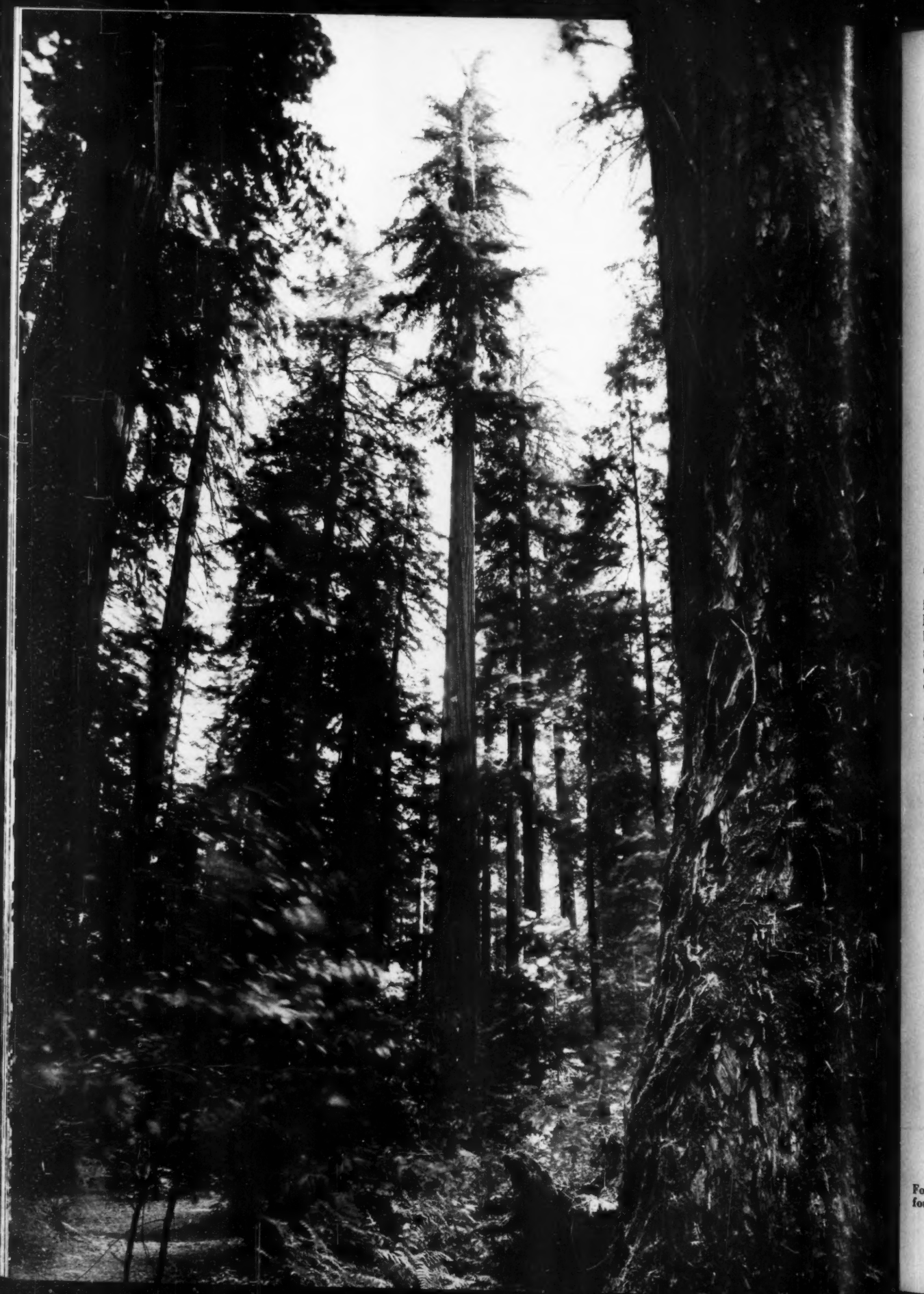


Wooden bellows for park organ are oiled daily. Dick Burgess is shown at this daily chore. While other people play, hardworking staff at an amusement park keep going night and day



Dick Burgess changes paper roll on calliope. Whether it's "Dixie" or "Meet Me in St. Louis," these tunes are a part of growing up for the millions of Greater Washington area children. At right, Norman Best continuing on his daily inspection hike to insure safety of riders







CALIFORNIA'S

Dip Into Nature

By E. L. MAHAN

THE bear that no one will ever see was chosen in 1953 by California for its state animal. This huge, powerful California grizzly bear (*Ursus californicus*) became extinct more than thirty years ago because man waited too long to think of protection and conservation.

Though other types of big bears can be seen in the national parks and zoos, the California grizzly will never be seen by mankind except in pictures and as shown on the Bear Flag and the Great Seal of California.

Preservation of every kind of wildlife has become a big job and a necessary one. Year-round security is now given the antelope, the beaver, and the sea otter, all of which were nearly wiped out, in order to prevent a repetition of the grizzly bear disappearance. New arrangements are continually being made to combat this problem: wildlife refuges, bird refuges, wildflower sanctuaries throughout the state, wilderness areas in national forests, education by conservation groups, and fish and game laws.

Another problem in safeguarding a species is presented by the golden trout (*Salmo aguabonita*). This brightly colored and rare fish, found in the streams of the High Sierra, has been California's state fish since 1947. Designated fishing seasons

and license laws are set up for its defense and are enforced by the State Department of Fish and Game.

The Fish and Game Department has the responsibility for watching over wildlife, fish, and birds. The California quail (*Lophortyx californica valicola*), the state bird, is protected all year except during the open season (usually six weeks). The election of this bird came about in 1931 through the efforts of Audubon Societies.

Hundreds of other birds are also guarded in California, not only to preserve their kind but for the help they give to man. Birds destroy pests which might otherwise be uncontrollable. They eat insects which are harmful to trees and plants; some of them destroy mice, rats, and gophers. Some of them eat the seeds of weeds.

Conservation groups recommend that we in turn help the birds. You can care for birds in your own yard, even though you live in town. They like to drink clear water in a shallow dish, and you can watch them fluttering around taking their baths in it, too. You can put out feeding trays, one low and one high off the ground for safety from cats. If you have a yard of any kind, plant bushes to give the birds security and to give them berries to eat. Country

Founders' Tree, center, named to honor
founders of Save-the-Redwoods-League

A fine stand of trees is preserved in
the Prairie Creek Redwoods State Park



dweller can safeguard the ready-made watering places and shelters that nature has provided for the birds.

Shrubs and plants protected for the benefit of birds are at the same time doing other beneficial jobs in their own right. Besides their own beauty, which lends itself to the surrounding hills and woods, they provide the essential ground cover to hold our soil and they increase our water supply by slowing down the runoff of rainfall.

Even wildflowers, as well as some plants and shrubs, are defended by the law. Some of them cannot be picked at all because they are so rare, and others can be picked only after obtaining a permit to do so.

The state flower, elected in 1903, is the California poppy (*Eschscholzia californica*), a native wildflower of golden color. This is a perennial, easy to grow in the garden, and it can be made to bloom several times in a season by cutting off the brown leaves and watering the plants.

The California Conservation Council recommends, "Spare the wildflowers: let them live in your hearts; they will die in your hands." Leave them so that those who come after you can also enjoy their beauty, but, most important, so that they will reproduce year after year from their seeds and bulbs.

Where the flower goes, there also

goes the butterfly, the most beautiful of all insects. In 1929 California entomologists chose the California dog-face butterfly or dog head (*Zerene eurydice*) as the state insect. Though this was not made official by the state legislature as the other emblems were, California was the first to adopt an insect.

The male dog-face butterfly is orange and has a black border; the female has no design except a black dot on the wings and is an orange to yellow color. They are found from San Francisco to the south of the state.

The northern part of the state, plus a few national parks, is the exclusive home of the California redwood

(*Sequoia sempervirens*, *Sequoia gigantea*). This is not only the state tree, but the latter was voted the United States tree by this country's school children.

These two trees, the coast redwood (*Sequoia sempervirens*) and the giant sequoia (*Sequoia gigantea*—more recently listed as *Sequoia-dendron giganteum*) are relatives and both have been the state tree since 1937.

The giant sequoia, sometimes called the "big tree," is thought to be the oldest living thing on earth. They grow to a height of 150-300 feet, a diameter of 10 to 35 feet and range to more than 1500 years in age. Some fallen trees have had an-



The California quail, the state bird, is protected the year around, except during open season. Hundreds of other birds are also protected by state

Redwoods forests line the South Fork of Eel River. The northern part of the state, plus a few national parks, is the exclusive home of California redwoods



nual rings showing an age of up to 2300 years.

The big trees are found in Yosemite, Sequoia, and Kings Canyon National Parks and in groves on the western slopes of the High Sierra Nevada Mountains. The largest of these giants is the "General Sherman" in Sequoia National Park. The "General Sherman" is said to have enough lumber to build forty five-room houses; it is 36.5 feet thick at a height of five feet above the ground.

Another famous tree of this group, the "General Grant," is the nation's Christmas tree, located in Kings Canyon National Park.

The coast redwoods (*Sequoia sempervirens*) live in the rainy climate of the California coast from Monterey County to Oregon.

One of these, the tallest tree in the world, is 364 feet high and grows in a state park. They normally grow to a height of 100-340 feet, a diameter of two to twelve feet, and have

(Turn to page 41)



Informality is keynote as fire warden stresses importance of forest protection to group of Seattle children during tree farm tour

Now Children, *You May Plant a Tree*

By JOYCE BLAIR

MOMENTARY carelessness on the part of loggers cost the state of Oregon 311,000 acres of valuable timber in 1933. The area known as the Tillamook Burn, which lies between Portland and the vast Pacific Ocean, is still a charred, desolate ghost of its former self. It was a savage, searing holocaust, and a needless one.

Just how disastrous this fire was to the state's economy in terms of dollars and cents was studied with interest by an estimated 1500 Portland school children who participated in the ninth annual reforestation program last spring. Highlight of the project was the planting of some 74,000 seedling trees by the youngsters—bringing the total seedlings planted since 1950 close to 600,000.

The Tillamook Burn Project is sponsored by Portland garden clubs, the forest industries groups, and civic and industry leaders, as well as the State Forestry Department. It is only one of many similar or related conservation education programs in effect throughout the Pacific Northwest. One other proj-

ect concerned a group of some fifty Boy Scouts from Spokane, Washington. The Scouts took part in a two-day woods tour and planting project on a nearby commercial tree farm and earned forestry merit badges by planting 100 seedlings each by hand.

Not so strenuous nor exacting, but every bit as interesting, are the tree farm tours of several western Washington county school districts. School children from the fifth through ninth grades (grade depends upon the particular district, as they differ) combine history, science, art, and composition with forest education and participate in field trips to nearby tree farms.

The prime force behind this unique educational adventure is a woman named Bea Warfield. Mrs. Warfield's title with the Highline School District in the populous King County (a county which embraces the metropolitan city of Seattle) is Instruction Materials Co-ordinator. When teachers began requesting some way to demonstrate the academic theories of conservation which were part of the Highline District

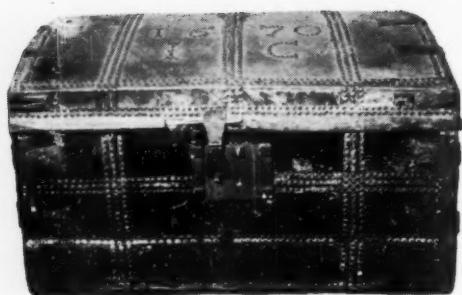
curriculum about seven years ago, Mrs. Warfield made arrangements for the outdoor classroom sessions at one of the county's private tree farms. Before the tours, teachers of the fifth and sixth grade classes discuss what they will see at the tree farm and give reasons for planting seedlings.

The tour was divided into a half-
(Turn to page 47)

Arthur K. Roberts, West Coast Lumbermen's Assn., helps Portland students plant seedlings on the Tillamook Burn



WOODEN TRUNKS FROM AMERICAN FORESTS



Cowhide and brass nails cover 1670 trunk



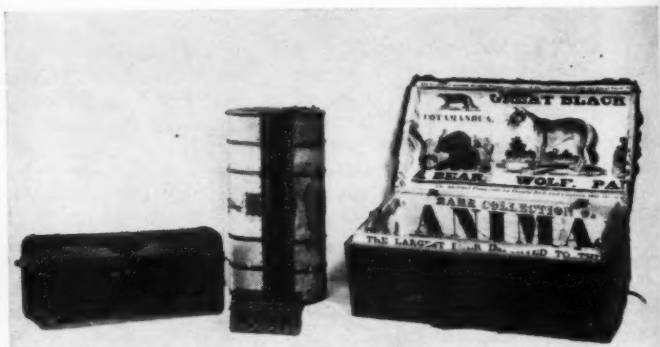
1867 General Grant Trunk



Pulpwood logs floating down Susquehanna. Paper made from pulpwood lined travel cases

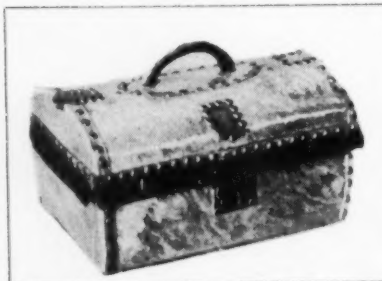


Cot-chest used by Washington during Revolutionary War



General trunk collection is exhibited at Henry Ford Museum, Dearborn

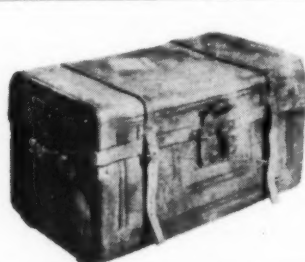
1797 Arcon Trunk

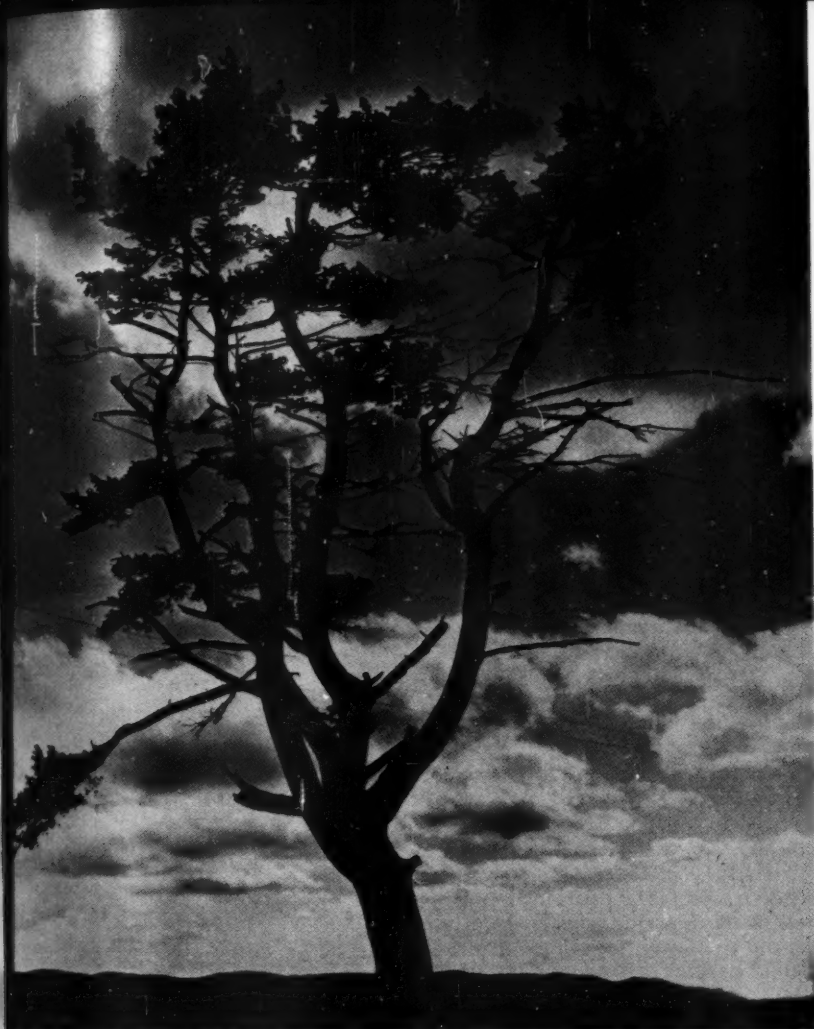


1850 Jenny Lind Trunk



1854 Stagecoach Trunk





Lightweight woods of conifers, such as white pine, were preferred in trunk making



Fitted camp chest was once property of General George Washington



Bark of hemlock yields tannic acid

By J. ALMUS RUSSELL

SEARCH almost any attic, garret, or storeroom, and authentic examples of the trunks of yesterday will come to light. You will find sea chests; satchels, valises, and suitcases with wooden frames and handles; bandboxes, carpet bags, and even arcons—the chief forerunners of our present trunk.

In this interesting "traveliana" of years gone by, in many a container now used for storing unwanted or forgotten articles of wearing apparel, are found fascinating and intriguing stories about the luggage carried by our pioneer forefathers on horseback, coach, canoe, railroad, canalboat, and sailing vessel.

Curiously enough, wooden chests of fine workmanship have been discovered in Egyptian tombs. A leather satchel of the ninth century, A.D., held religious books and manu-

scripts. Friars and pilgrims of the Middle Ages hung scrips and leather pouches from their girdles to hold their more precious possessions. Leather wallets served as counterparts of the modern lunch basket. Clothing was also carried in leather bags.

The tanning of such leather was dependent upon a commercial process in which the bark of certain trees was crushed to yield tannic acid, a leather preservative. In America, the bark of hemlock, oak, chestnut, and sumach provided the chief sources.

Trunks were in common use in Shakespeare's time, and such traveling necessities were often mentioned in his works. On occasion, specially-constructed wooden chests held silver plate and cutlery. Some of the Pilgrims carried their possessions and

personal effects in wooden sea chests. Later, such chests, sometimes roped with hempen homespun cords, rode behind or above colonial carriages and stagecoaches.

The mists of more than 200 years hide the story of American baggage production. Books, newspaper articles, and diaries concerning the manufacture of early trunks and traveling bags are decidedly lacking. As a result, much has to be conjectured from the comparatively little information which exists regarding this now forgotten industry.

Among the earliest American pioneer trunks were those constructed from hollow tree trunks and cut to a length to fit the conveyances which were to carry them. These were completed with a rough or finely-tooled lock, and a key to secure the cover.

(Turn to page 42)

Oregon is celebrating its statehood centennial. The pattern of its settlement, both before and after becoming a state, was followed in most of the West.

THE great adventure of the western United States was the inland exploration and the days of the mountain men. It began with the Lewis and Clark expedition that left St. Louis in 1804, reached the Pacific Ocean, and returned to St. Louis in 1806.

The inland exploration was continued by men whose very names have become synonymous with the West and with the adventure of finding and recording the wonders in that wild and vast expanse of unknown land. Included will be such names as Jedidiah Smith, David Thompson, Peter Skene Ogden, General William H. Ashley, William Sublette, Jim Bridger, Kit Carson, Wilson Price Hunt and Zebulon Pike. These men and others wrote the pages of western history that fire the imagination, for they found the mountains, the valleys, the deserts, the plains, the forests, the rivers and the lakes. They were the searchers for the mythical Buenaventura, the legendary "River of the West" that was believed to drain the Great Basin and empty into the Pacific Ocean.

These men and their brigades trapped a million or more beavers. They learned the ways of the Indian tribes and fought with them when necessary as they wandered over the face of the land under its big skies. Captain John C. Fremont followed their trails and made the first dependable maps.

After the days of the explorers, the mountain men, and the trappers came the trade routes, the land booms, and the gold rushes. The Oregon Trail became the nation's greatest land rush route, and the men and women who crossed the plains to Oregon came for but one reason—to get free land. They were not adventurers. They were farmers looking for better homes where they had been told the land was fertile, the climate damp and mild, and the Columbia River available as a world outlet for their farm products.

Western Oregon's fame spread early and fast. Many men were responsible for this, but probably none was so persistent as a man most people, Oregonians included, have never heard of. This early promoter of Oregon was Hall J. Kelley, a Bos-

ton schoolmaster, textbook author, surveyor, and manufacturer. He became interested in Oregon as early as 1817 after reading Lewis and Clark's journals. He developed an absolute obsession that Oregon must become part of the United States. He tried to organize 3000 people into a "society" to emigrate. This scheme and similar ones failed, so Kelley came to Oregon himself in 1834 by way of New Orleans, Mexico, and California. It was an unbelievably difficult journey during which he was robbed and subsequently almost died of fever. When he finally arrived in Oregon with Ewing Young, a southwestern trapper and mountain man, he was still sick and weak. He and Young were accused of stealing the large band of horses which they drove, and they received a very poor reception at Fort Vancouver from Dr. John McLaughlin, the famous Chief Factor of the Hudson's Bay Company. McLaughlin did not want the region changed from a wilderness trapping and trading economy to one of agriculture.

After making observation trips in the Northwest area, Kelley returned to Boston and, undaunted by his failures, continued writing pamphlets on the need for Americans to settle Oregon. He petitioned Congress many times for funds and military aid to establish a colony on the Columbia River. His pamphlets and letters were widely published in the East. Although he never succeeded in his dream of leading an expedition to the west coast, he interested many people in the settlement of Oregon, including the powerful men in Congress who supported his crusade.

Kelley's work caused Nathaniel Wyeth, a Boston trader, to come to Oregon. He also had some influence on Jason Lee, Spaulding, and other missionaries who built missions among the Indians of the Old Oregon Country. Settlers quickly followed. Serious migration began in 1843 from Missouri and its neighboring states—then the western frontier. The "Oregon Trail" was soon worn deep. The migration never ceased and the Hudson's Bay Company's Department of the Columbia, which had extended from the Pacific to the Rocky Mountains and from Humboldt Bay in California to southern Alaska, absorbed the never-ending column of people.

In 1843 the cry "On to Oregon" caused Horace Greeley of the *New*

(Turn to page 38)

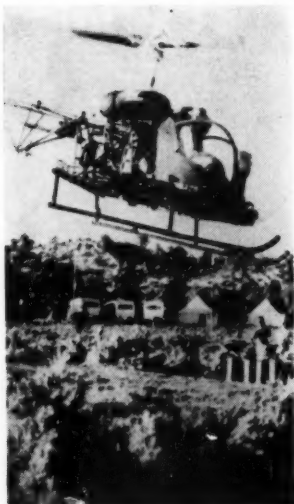
the first 100 years

By JOHN CLARK HUNT



Cherokee Outlet, about 6,500,000 acres, was opened to settlement at noon, Central Standard Time, September 16, 1893

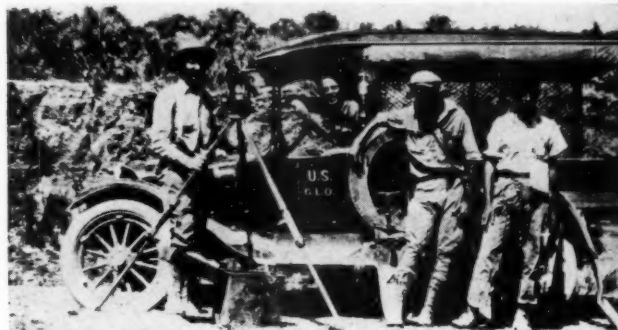
A human packstring begins the journey to survey project



The 1959 cadastral survey camp is equipped with helicopter, four-wheel motor vehicles



The "last line-up" at the land office in 1907 when the government threw open last large section in Oregon to public



By 1920 survey operation had really changed. Crew no longer carried rifles, had no cavalry group for protection



Cadastral survey crews had to endure many hardships, such as being snowbound by a storm

Survey crew at work in rugged and waterless public domain



Clerks and U. S. deputy marshals pose in front of land office in Perry, Okla., in 1893, during Oklahoma land rush



Reading
about

RESOURCES



By MONROE BUSH

On Natural Resources Publications

OF the dozen yardsticks for measuring the growth of interest in resource use, one as effective as any other is simply to count the titles in the deluge of resource publications—and compare this assembly-line production of conservation literature with the mere trickle of two or three decades ago.

There must be a large and ready audience, because there is certainly no end to the making of books. And astonishingly, much of what comes from the binderies is commercial fare that must pay its way by rough-and-tumble competition for purchase. To endure such competition the winners that do return a modest profit must be good; they must be pertinent, accurate, and thorough. One would think they should also be readable, but readability is such a weak link that it is often lopped off the chain entirely, and the reader is challenged to get his learning the hard way.

I suspect this is asking too much, and that after purchase many of these intellectual resources remain untapped. It is a shame that publishers who can somehow find the cash to pay typesetters and make-up men, paper costs, and the burdens of overhead, cannot also manage to hire a few competent editors to bring their material to life. Most resource books are as solid as good white pine, but they are not "packaged": written and edited, that is, for readability. Most such efforts do not possess one-tenth the influence which their content would justify, simply because not one reader in ten can wade through the virtually unedited manuscripts that find their way into print.

I have just been reading *Recreational Use of Wild Lands* by C. Frank Brockman of the College of

Forestry, University of Washington (McGraw-Hill, 1959. 346 pp. \$8.50). This is a novel study that runs the obvious and devastating risk of being lost to view once the report of the President's Outdoor Recreation Resources Review Commission is published.

In the meantime, what Brockman has done, although it is treated elsewhere in part by such authorities as Clawson, Carhart, and Tilden, will remain the single integrated review of outdoor facilities, their status and management—with particular emphasis on those situated in wild areas. But the subjects encompassed here are broader than the title indicates, and Brockman does not limit his survey strictly to wild lands.

However, for all his knowledge of his subject, and his actual experience in the field, Brockman has written a plodder! The text is pedestrian. The style smacks of what I would describe as "graduate-school grammar."

This is not to recommend against purchase. We have here merely another illustration of the slap-dash editing that has plagued so many resource books. The authors, who may not understand the true function of an editor, deserve a better break than their publishers give them. McGraw-Hill did not do well by Brockman.

Yet professionals in the recreation field will find it a useful, comprehensive reference work. The chapters span the immense gap from state parks to national parks, and they are concerned with such things as "Relationship of the Outdoors to Recreational Needs," "Economic Value of Recreational Lands," "Administration and Management of Recreational Lands," etc. Brockman's references at the end of each

chapter are particularly extensive, and will be helpful to any one studying further.

There is no other book at present that covers the same ground—and Brockman has plowed a lot of ground, with furrows so deep that you'd better be careful not to trip in one and set the book aside without hearing all the author has to say—that would be your loss, and his too.

An example of a beautifully written and edited book, on the other hand, is found in the newly published third edition of Agnes Chase's superb little *First Book of Grasses* (Smithsonian Institution, 1959. 127 pp. \$3.00). The sub-title here is "The Structure of Grasses Explained for Beginners," and Mrs. Chase should win a blue ribbon for sub-title accuracy. Structure is explained and illustrated in a way that serves every variety of beginner. First published in 1922, and again in 1937, this is an enduring contribution to any man's library, and its steady success must be a great and well-earned satisfaction to Mrs. Chase, who continues her work today at the Smithsonian as an Honorary Fellow.

While Mrs. Chase's achievement in the handling of words is rare, it is by no means isolated. From the Union of South Africa comes the most arresting book I have seen in long months. It reads better than most novels, and is, heaven knows, more important than most! *Conifers, South African Methods of Cultivation* by W. E. Hiley (Faber & Faber, London, 1959. 123 pp. 21s.) is a brilliant report on both conifers and on the state of South African forestry in general. It should be studied with intense interest by all

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Americans seriously concerned with conifer development. The chapter "Dr. Craib's Prescriptions" reports on the influence of Yale-educated Ian J. Craib, and is an exciting document. The chapter on "Forestry As An Investment" is enough to sell a good many steamship tickets. Get your bookseller to order this thin volume, and settle down with as rich a harvest of good and important reading as any technical book is likely to supply. True, we could all probably live quite happily with no idea what was happening in South African forestry, if we cared about nothing but what was under our noses.

And speaking of things under our noses, Norman Taylor of *Encyclopedia of Gardening* fame has condensed a lot of learning into the new, handy-sized *The Guide to Garden Flowers* (Houghton Mifflin, 1958. 315 pp. \$4.95). More than 400 species are identified and their cultures discussed. The illustrations are good though unexceptional. We recommend this book for everyone needing this kind of thing—and certainly every wife does, so her hus-

band will have someone to tell him what's what!

Apparently we never cease to ask, and the answering of questions becomes a bigger and a bigger business. The University of California Press has just published an ingenious series of booklets (\$1.50 each) that identify the wonders of the wonderful San Francisco Bay region. These are *Introduction to the Natural History of the San Francisco Bay Region*; *Mammals of the S.F.B.R.*; *Native Trees of the S.F.B.R.*; and *Reptiles and Amphibians of the S.F.B.R.*

The illustrations of this series rate an award, and the booklets themselves are headed for a long sale to the residents of that area, who live in such a beautiful place that they must surely want to know more of the essence of their natural world. At least that was the obvious hope and assumption of the California Press. This is an innovation in regional publishing that should be emulated elsewhere. Perhaps Chapel Hill could do the same thing on the magnificent southeast coast.

The First 100 Years

(From page 34)

York Tribune to write:—"For what do they brave the desert, the wilderness, the savage, the snowy precipices of the Rocky Mountains, the weary summer march, the storm-drenched bivouac, the gnawing famine? This immigration of more than a thousand persons in one body to Oregon wears an aspect of insanity."

The settling of all frontiers has had two absolute requirements—first, there had to be rules for occupying the land and regulating the size of the claims; second, the claims had to be surveyed and recorded.

Before the 1843 wagon trains arrived, the small number of white men in western Oregon had set up a provisional government. The most important of their laws were those regulating land claims. These laws permitted each person to claim 640 acres. He was required to designate the boundaries of his land and record his claim in the office of the Territorial Recorder.

With the exception of missions, no one was allowed to hold more than 640 acres, which were to be in a square or oblong form according to natural surroundings.

The settlers who came in the 1843 wagon trains did not like the land laws that were in effect. They in-

sisted upon and forced revisions. The new rules became the land laws of 1844. Under the new laws only free men, who would be entitled to vote if of lawful age, and widows could legally claim 640 acres. But a boy under eighteen could file a claim if married. The claimant was required to begin improvements on the land within two months with the intention of occupying it, and occupancy meant actual residence on the claim. The requirement of recording claims was dispensed with because the land was not surveyed and it often involved what was then considered a long journey over mud trails to reach the recorder's office.

One of the real reasons for the land laws of 1844 was to forbid the established missions from claiming and holding the thirty-six sections (23,040 acres) of land which they had claimed under the former laws.

In 1850, after Oregon had been accepted as the Territory of Oregon with a Territorial Government, the Donation Land Bill was passed by Congress to apply to public lands in Oregon. Under this law each male settler who occupied his claim received a donation of 320 acres. If the man was married, his wife qualified for her 320 acres.



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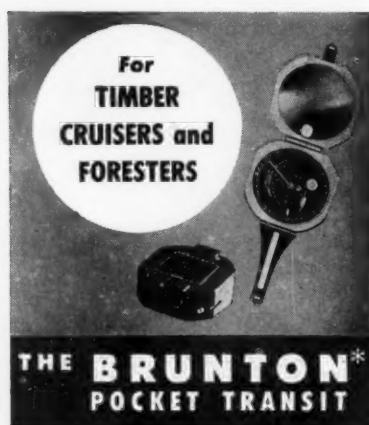
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Bancroft says in his *History of Oregon*, 1888: "Contrary to all precedent, the women of this remote region were placed by Congress in this respect upon an equality with men—it may be in acknowledgment of their having earned in the same manner and measure a right to be considered creditors of the government, or the men may have made this arrangement that they, through their wives, might control more land. It had, it is true, limited this equality to those who were married, or had been married on starting for Oregon, but it was upon the presumption that there were no unmarried women in Oregon, which was near the truth. Men took advantage of the law, and to be able to lord it over a mile square of land, married girls no more than children, who as soon as they became wives were entitled to claim half a section in their own right; girls in order to have this right married without due consideration."

The General Land Office of the United States was established in 1812 under the Treasury Department to manage the public lands of the nation. In 1849 it was transferred to the Department of the Interior. The agency began its function in Oregon in 1851 when the first Surveyor-General, John B. Preston, arrived and began the survey of the Pacific Northwest by staking the Willamette Meridian on the heights just west of Portland. The point of intersection of the base and meridian line was, and is, 7.75 miles south of the Columbia River and 3.5 miles west of the Willamette River. The reason given for fixing the beginning of the survey at this place was because the Indians were friendly and a survey of that area would best accommodate the immediate needs of the settlers and their homesteads.

One writer has called this pin-

point where the Willamette meridian and the Willamette base line cross the most important bit of earth in the Pacific Northwest. This would seem to be true, for every homestead and land claim, and every deed to property in Oregon and Washington, receives its location for title and its legal fix to the earth's surface from the exact crossing of these two invisible lines. The spot is now marked by a square stone that stands where the first stake was driven. It is a secluded little nook known as the Willamette Stone State Park.

The survey pushed on south and north, west and east, covering millions of acres of farms, timber, cattle and sheep ranges, canyons, and mountain tops, often with soldiers to help fight off the Indians while the surveys were made. The job of surveying, re-surveying, and mapping the public lands by a rectangular system of townships, ranges, sections, and subdivisions of sections, as authorized by Congress in 1785, continues today in most respects as it did in 1851.

Surveyor-General Preston was not only the first cadastral engineer in the Northwest, but he set up his headquarters at the village of Oregon City and acted as the first U. S. Registrar and Receiver in the old Oregon Country. In 1853 a regularly established land office in Oregon City took over the duties of recording all public land transactions in the territory.

Many other land offices were established as the state was settled. Oregon's gold rushes, the building of cattle and sheep ranches on millions of acres of good rangeland, the development of the great lumber industry, and large irrigation projects made land offices necessary. But the last of these pioneer services was closed in 1948. When the Bureau of Land Management was created in 1946 it absorbed the General Land Office, including the Cadastral Survey, the Grazing Service and the Oregon and California Revested Land Administration. All land office records in the state were moved to Portland, creating the Oregon Land Office.

After the best land had been claimed, Congress made many changes in the Homestead Act of 1862 and passed innumerable land laws. The demand for public land and for surveys slowed somewhat, but they did not and have not stopped. People are still seeking homes on the public domain in Oregon and all Western states. They

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seem unable, or unwilling, to believe that the frontier has closed and that there is no more free land and no remaining desirable homestead land—except in Alaska or where the Bureau of Reclamation creates homesteads in irrigation areas. However, the Cadastral Survey is still busy in Oregon and elsewhere in the West wherever there is a large acreage of public domain, particularly in the desert. They are surveying the rugged, the uninhabited and the waterless places where surveys have heretofore been unnecessary. They are also re-surveying the areas where time, the elements, fires, erosion, land clearing, and logging have destroyed the township and section corners.

But the Cadastral Survey, like all things, has changed. The parties no longer carry rifles and six-guns or take a detachment of cavalry for protection while they work. Their saddle horses, packstrings and freight wagons have been replaced by jeeps, trucks and helicopters. The agricultural and range lands of Oregon and all the West have been settled. Only the remote and driest of desert areas remain. The frontier has truly passed.

California

(From page 30)

an age range extending to more than 1300 years.

The white man first saw these trees in about 1769 and called them redwood for their color. The name Sequoia came from the famous Indian chief, Sequoia, who invented the Cherokee alphabet. Geologists say that 140 million years ago the redwoods grew throughout the world, but that the huge sheets of glacial ice during the ice age destroyed all but those growing along the northern California coast, the big tree in the Sierra and the metasequoia, "dawn redwood," in China.

More than 72,000 acres have been set aside in parks and memorial groves, and thousands of visitors travel Highway 101, the Redwood Highway, each year to see the trees. The purchase of these groves has been made possible by money donated through the Save-the-Redwoods League and matched by the state of California so that these giants can be protected to reproduce for future generations.

Thus California, in her choice of emblems, has the oldest living thing known to man, and she will keep it living. Her state animal, the California grizzly bear, taught her a lesson in conservation.

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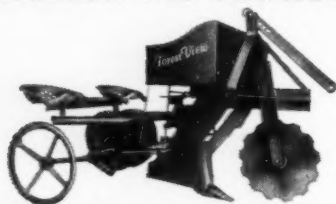
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Wooden Trunks From American Forests

(From page 33)

Trunks of rounded form, requiring less room under the coach seats than those of rectangular construction, remained popular for 200 years.

In the United States, wooden and leather trunks were first made for general use around 1775 by cabinet workers and saddlers. W. W. Winship and Sons of Boston have the distinction of owning the oldest trunk company still in business in this country, the original firm having been established by Thomas Patten of Watertown, Massachusetts, sometime before the American Revolution. Patten was followed by Zachariah Hicks, who, in turn, was succeeded by Charles M'Burney. M'Burney sold out in 1842 to Henry Winship, an ancestor of the present owners.

Chaise trunks were produced by John Bott of Salem between 1775 and 1875. It is certain that Harvard students used Salem luggage before 1792, and one horsehair trunk is still preserved which was made in Boston before 1700.

Early trunks were of necessity small, constructed of wood, and covered with horsehair, canvas, heavy paper, or leather. Sometimes all covering was omitted. Such trunks were studded with brass nails for ornamentation, thereby identifying these containers with the owner's initials. Such nails also held in place plain, pinked or scalloped strips of leather, cut with a hammer and a sharp, curved pinking-iron.

Sometimes the owner had his name engraved on a brass plate fastened to the outside top of the lid, while the manufacturer placed his label on the inside of the same lid.

While early trunks had no wooden trays, their interiors were lined with

gay wall paper, homespun cloth, or with what is now of much greater historical and regional significance—newspapers. Such papers furnish economic, historical, geographical, and literary items for the luggage collector of today.

Small trunks covered with unclipped deerskin or goatskin and lined with handblocked paper were used for storage of deeds, wills, fraternal records, and valuable letters. In one case, a large Masonic emblem, flanked by the owner's initials, adorned an outside lid-top. Sometimes a compartment in the roof of the trunk, closing with a door fastened by a smooth stick, provided letter-storage space.

The following statement of interest to the traveling public is taken from an advertisement of George Wilt and Son, New York, 1797:

"The proper baggage to take may include an arcon-style trunk made by George Wilt in his place on Frankfort Street. It is made of pine wood, covered with leather, studded with brass nails, and lined with wall-paper of the latest design. Price is one pound, twelve shillings. The owner's initials will be nailed on top in good fashion for sixpence a letter. The traveler may also like to have a hand-arcon for personal papers."

Spanish gentlemen, dashing about the Continent and colonizing the New World at the end of the 18th century, carried their fresh linen and private wines in arcons.

Merchants living far from commercial centers made an important occasion of going to market at regular intervals, particularly to Philadelphia from southern points. Yet, outside of the City of Brotherly Love and a few southern towns, scarcely any trunk centers existed. Instead, luggage was only a small sideline stocked by clothing, dry goods, harness, and general stores, to be sold by dealers coming to the city market. This was the case particularly in New England, New York, the Canadian Maritime Provinces, and even in distant Africa and Australia.

Because stagecoach travel was intended for carrying passengers overland, trunks were purposely kept small. The limitation for weight for free transportation was only 14 pounds. In the 1860's, when west-bound passengers reached the end of their rail journey at Atchison, Kan-

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sas, travelers were surprised to find that they were allowed only 25 pounds of baggage without extra charge. Excess baggage to Denver cost a dollar a pound!

About 1850, a handsome trunk known as the Jenny Lind became a favorite of the American traveler. This case consisted of a wooden box built on curved lines, leather-covered, and embossed with additional leather.

Up to this time, a trunk was made by one man from start to finish. One craftsman was said to have made a dozen each of seven assorted sizes for \$6.00 a week. In 1869, a Philadelphian systematized his plant production so as to use teamwork with his employees, building his first trunks on a sort of assembly line. This is the first mention extant of specialized work, and marks the beginning of piecework in the trunk industry.

Sole leather and rawhide trunks were often decorated with brass nails and equipped with wrought iron handles. Chests, coffins, and utility boxes were frequently a product of farm and village outlet shops.

Splint boxes, sometimes hand-painted, also served as small traveling cases. Lightweight suitcases were made from basswood boards with joints grooved and carefully joined. For even lighter travel, the earliest bandboxes of the 1812 period—oil-cloth bags, shirtwaist containers, and great leather hatboxes made from the finest cowhide—were all highly popular with travelers.

Carpet bags, carried by men and women alike, made from gorgeously designed Brussels and ingrain carpet remnants and complete with wooden handles, were in high style from 1830 to 1870.

In the second quarter of the 19th century, when bonnets were fashionable, ladies used bandboxes to carry and protect such pieces of headgear. These boxes were large enough to keep ribbon, frill, and lace from becoming crushed or soiled.

One little old lady remembers as a child hiding in an enormous bandbox when she was playing hide-and-seek in a New Hampshire attic. Some boxes were that big.

"Aunt Hannah" Davis, New Hampshire's most famous bandbox maker, carried on a one-woman business in this craft during the second quarter of the nineteenth century. So efficient was this craftswoman that she even went into the woods herself to select the properly curved old-growth spruce trees, invented a foot-powered slicing machine to cut the

bolts of wood into scabbards of the required length, and made the boxes by hand, marketing them herself in the nearby manufacturing cities of Manchester and Lowell.

Early luggage appeals particularly to collectors of 18th and 19th century travel Americana. Few antiques recall more vividly than do wooden and leather trunks the realistic and romantic past of our almost forgotten frontiers.

Bandbox, arcon, and carpetbag—all bring to mind the adventures of packetship and sailboat passengers on their early coastal, river, and lake

voyages. Horseback trips through the forest and over the prairies recall the use of leather saddlebags. Wooden trunks and suitcases revive memories of the post chaise passengers who used this method of transportation in making their slow, jolting journeys.

In fact, American luggage and the American frontier were inseparable. Wherever the pioneer ventured in search of land and prosperity, his personal belongings, records, and clothes always accompanied him in a trunk of yesterday, a product of the American forest.

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"DR. STABILITY" RETIRES

A brilliant 34-year career in research on the physical chemistry of wood, much of it devoted to finding ways to make wood "hold still," is drawing to a close for Dr. Alfred J. Stamm of the Forest Products Laboratory at Madison, Wisconsin. Not that the man known as "Dr. Stability" in wood research circles intends to hold still for a minute. This fall he will be teaching wood chemistry at North Carolina State College and continuing his research.

During the past months Stamm has been winding up research on a project dealing with the movement of moisture through passages in wood so fine as to be invisible even under the microscope.

Such familiar terms as "impreg," "compreg," and "acetylated wood" identify special treatments Stamm has developed to reduce the swelling or shrinking of wood in use. However Stamm regards the basic research he has done on movement of liquids and vapors through wood as of much more fundamental and lasting importance.

Nurse-Tree of Forest

(From page 11)

snowstorm of flying white parachutes. Even on still days they float on currents of air too delicate to be discerned by ordinary human senses. On days of strong winds the range of the seeds may be measured in scores of miles.

The seeds are carefully attuned to their mission of mending disasters. They remain viable for only a few days. If they fall on land already supporting a healthy growth of any kind, they cannot germinate; they must touch bare mineral soil, a condition existing naturally following fire. Where disaster has prepared the way for them, the aspen seeds germinate quickly and in unbelievable numbers. One square foot of suitable soil may contain hundreds of sprouting seeds.

It is the aspen's task to prepare the soil for other trees to grow. Its tall crown shades the parched land, keeping it moist, its mulch provides nourishment, its shade discourages primitive shrubs that sprout in profusion on bare land. Were not the aspen able to respond immediately after the ravages of fire, these shrubs would choke the land with a tangled mass where no trees at all could make a start and live.

Aspens themselves cannot grow in shade, but tougher and longer liv-

ing trees do take root and thrive beneath the aspen's crown. These are the conifers—northern pines, firs, and spruces—and certain stubborn oaks and maples. Guarded and nourished by the aspen's branches, they push and crowd, demanding their place in the sun.

And they are not denied, for the aspen's life is a short one. It begins to die soon after its 45th year. It is hurried along to its end by a score of insects and a dozen fungus diseases. As age creeps up cankers gain the upper hand, until soon there is a stand of dying trees with riddled canopies and stark bleached-bone limbs in place of living branches.

But this quick fate also has its proper place in the aspen's role as a mender of disasters. For it is part of the nurse tree's mission to die and crumble quickly into rich forest mulch so the young conifers and hardwoods may live and flourish. Released into full sunlight, these young trees flower again into the great forests our forefathers found when they first explored the land.

But always in these renewed forests some sentinel aspens remain on guard, ready to take up the task of reforestation, should disaster strike again. Wildlife thrives when the aspen trees move into denuded areas. Grouse eat the tender leaves in summer and the quick-forming buds in the fall, winter and spring. Beaver live largely on aspen bark, and use it for construction of dams and lodges. In Michigan each animal has cut an average of more than 200 trees a year near its home watercourse. The bark of the aspen also nourishes snowshoe rabbits through long northern winters. Deer turn to aspen for a large share of the browse—five to seven pounds of buds, leaves and twigs—they require daily. Browsing helps to thin the heavy starting stand down to the thrifty 1000 trees per acre at which they grow their best.

The aspen can be seen at work nursing forestlands back to life in nearly three fourths of the forest area of the United States. On a recent 30-mile drive along the St. Mary's River in northern Michigan, the life story of the aspen unfolded before my eyes. Here was a clump of tall shoots springing up from two parent trees at the edge of a pasture, shading out a growth of brush that also sought to claim the bare land. At another point a tall stand of aspens was nursing a vigorous, healthy growth of head-high

evergreens. Topping a hill on the state highway to Sault Ste. Marie I saw another stage, where the points of the evergreens had grown almost to the aspen's crown. Beyond that was a stretch of woodland where the aspens had fulfilled their cycle and the evergreens were shooting up into the sunlight above the bare, lifeless limbs of their one-time nurse trees.

In foliage the cheerful character of the aspen stands out in vivid contrast to the tougher, hardier trees. In summer the two-toned leaves, warm green on top and silver underneath, flutter to the breeze in quick-silver changes that delight the eye. When autumn brings brilliant reds and russet browns to oaks and maples, the aspen turns a soft yellow, its delicate leaves quivering and turning like golden coins suspended in air by some forest magic.

The wind in the brooding pines is a mournful monologue. But the aspen holds no stock with such gloomy spirits. The happy, rustling murmur of its leaves stirred by a night breeze soothes the ear and the spirit of man. Perhaps it is not too far-fetched to call the aspen a healer of hearts as well as a mender of disaster.

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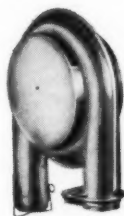
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Now Children, You May Plant A Tree

(From page 31)

dozen stations, manned by local representatives of the federal and state forestry agencies, the County Agricultural Extension Service, the soil conservation experts, and someone from private industry. Concepts of logging, forest products, soil erosion and types, identification, thinning and pruning, and, finally, planting were explained at each station in terms easily understood by the youngsters. Groups were kept small and the children were encouraged to ask questions. Since they had already been briefed in the classrooms, the students were enthusiastic in their reactions.

More and more schools requested participation in the program and another farm was selected for the northern half of the county. According to Richard Pardo, director of Keep Washington Green, some 2,000 children a year follow the trails of the two King County tree farms alone. Nearly that same number from neighboring Pierce County visit the two farms there, although that program is only three years old in comparison to King County's seven.

Educators differ on the best age level for these field activities. The county schools favor the fifth grade as the most impressionable while the Seattle City School District allows only ninth graders to participate; still another district prefers the seventh-grade level.

The pictures accompanying this article were taken during the spring tour of fifth-graders at a private model tree farm at Orting, Washington. Originally homesteaded by Polish farmers in the late 1800's, the 160-acre tree farm is now owned by Mrs. Mary Lea Griggs of Tacoma, Washington. Mrs. Griggs is well-known for her work in conservation and for her excellent color slide collection. Before the week of the tours, several foresters' wives (and, on occasion, Mrs. Griggs herself) visit the classes and show the children by way of these slides what to expect on their tours.

The children, naturally, are not the only ones who have responded to this forest education program with interest. Both government and private agencies have been enthusiastic about the potential value of educating young minds to the important job of managing and protecting the Pacific Northwest forests. However,

the administrators in the school districts want the teachers to take over the whole job of manning the stations and explaining the purposes to each captive-audience group. More and more of these teachers are being encouraged to attend conservation workshops in order that they may do an effective job. In the Seattle Forest Education program, for instance, this procedure is already in effect; the foresters are available for guidance, but they no longer need spend long hours away from their own duties in order to do a teaching job.

Dr. Emlyn David Jones, an administrative director of the Seattle schools, feels that this ties the children and the project closer together. When they return to the schoolroom, he says, the teacher is able to answer their questions and to direct their future work such as art posters, themes, or science studies.

To those who would criticize the forest education program as being an extra-curricular school activity and, therefore, unimportant, the words of Dr. Donald W. Stotler, Portland School District Science Supervisor, seem particularly appropriate in an age when so much of nature is taken for granted. "The tree planting project," says Dr. Stotler, "helps students identify themselves with conservation and develops good citizenship principles. In planting trees, we are growing citizens."

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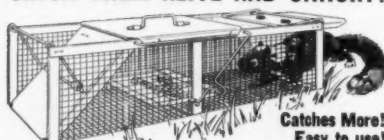
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De-Spicing Western Ranges

(From page 15)

load and less ferry time which has meant an overall economy. Flying his strips at 180 mph true airspeed, a pilot can spray 2000 acres in a single morning before wind, heat, and/or fatigue forces a halt. This has brought the price of the spraying to \$2.25-\$3.50 per acre.

Prior to each flight, the crew studies a detailed map or aerial photos of the section which shows path of flight, the incline, hazards to be avoided, and so forth. Also, the pilot usually goes over the ground on foot with the ranger in charge, so that he is thoroughly familiar with the rugged area. Aloft, he is directed on his runs by men with flags stationed at either end of the swath, which may be from a few hundred yards to four or five miles in length. Project boundaries are marked with long strips of white material.

To be effective, the herbicide must be applied while vegetation, wind, and moisture conditions are suitable, which may allow no more than a ten-day spread in mountain ranges. The hardy sage is most vulnerable at the period of its maximum growth, when the new shoots atop the plant are a silvery green and just beginning to droop from their own weight. Thus the spraying must be shifted to places where these conditions exist, however briefly. In addition, local weather may cut the allowable spread of effective spraying time, thus making the carrying capacity and speed of the contractor a critical factor. This year, all the ranges marked for eradication were sprayed well within the time limits. Since the size of the plots varied from 300 to 10,060 acres, this necessitated the timing of a military attack.

The aerial spraying itself, the Forest Service points out, is no more than an essential part of the general campaign for range improvement in western states where the cover has been allowed to deteriorate. The 700,000 acres in this single Forest Service region which have been designated as those likely to respond to such treatment are a small section of the ailing total. There are other thousands of acres inherited by the Forest Service which require much more drastic help. In Utah, for instance, these include slopes of a 70 per cent grade which were overgrazed by sheep 30 and 40 years ago and have never been able

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to recover by natural process. Some of these slopes hung precariously over populated valleys, and in more than one instance a heavy rain brought tons of mud and stone cascading down the canyons onto the residents below. For the ranges acquired recently in such condition, the only thing that could be done was to pray that the sparse rainfall of the past few years would continue until suitable new cover replaced the weeds of little retention value and until diversion dams, gully plugs, and contour planting could be undertaken.

And for the ranges invaded by the sage, usually something of the same was required in addition to the basic eradication of the brush. These other measures were planned along with the aerial attack, permittees who were using the ranges had been consulted, and general agreements had been reached on the subsequent use of the sage-infested areas before they were ever sprayed. During the several seasons immediately following the application of the 2,4-D, grazing must be drastically curtailed in order to give the grasses a chance to recover and re-seed, thus reaching a condition at which a constant level of production can be maintained indefinitely.

Although it may seem contradictory, the permittees are frequently asked to reduce their use of the range permanently as part of the rehabilitation program. Obtaining this non-use agreement is the main limiting factor, along with the ever-present problem of appropriations, and it is entirely the task of the ranger in that area. Needless to say, requesting a stockman to relinquish the use of any part of his range requires tact and a good argument. As the results of the sage eradication become apparent, the latter is provided in abundance, and most large permittees now are willing to place part of their range in this beneficial escrow. By varying that part over the years, eventually all of their permit can be treated.

This is not to say that such eradication does not increase the forage. It does, in some cases by two or three times. The bush of the sage itself makes almost 50 per cent of the forage inaccessible to cattle. The part which is available is thus overgrazed and over-trampled, and it suffers accordingly. To maintain that increased forage at a level which will insure that the same process won't have to be repeated a few years hence, the controversial reductions

in the obligation to the range are deemed necessary.

Perhaps contrary to some opinions, the Forest Service would like nothing better than to be able to revise these allotments in the other direction, and in some parts of Region Four this has been possible, as it may well be on any thoroughly rehabilitated range. In the Diamond Mountain area of the Ashley National Forest, a judicious use of fencing and rotation of the livestock through the five improved pastures which have replaced the old range may enable an appreciable increase in allotments to the several users.

Not all such sage land would benefit from this eradication, of course. The first step in the Forest Service program is a careful survey, conducted by all the parties concerned, which determines which areas are suitable and will be able to restore themselves through the growth of native grasses when the heavy overhang is removed. Doing away with the brush itself would merely promote erosion if there were no other cover to take its place with a firmly-rooted mantle. Usually the spraying is restricted to those ranges where a definite undergrowth of such forage is already apparent, which eliminates much desert and lower-level land



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from consideration. Re-seeding, although done in extreme instances, is considered a last resort, since its cost runs three or four times that of the spraying.

The treated ranges this year lay at elevations from 5000 to 9500 feet above sea level, higher than most private pastures or land administered by other agencies such as the Bureau of Land Management. Although the sage thickets exist at all levels in practically the same form, the types of grasses found here vary with the altitude. For the most part, those which have persisted beneath the bushes are the Idaho fescue and June or wheat grasses. In the event that the terrain makes re-seeding mandatory, these are supplemented with hybrids such as the stiff-hair and crested wheat or smooth brome. The whole process of such spraying and seeding can be done within a single season, since by autumn the degree of effectiveness of the herbicide becomes apparent; it is not necessary to wait until the brush actually dies and is dispersed before seeding is started.

Actually, the dead sage bush is considered beneficial for the critical few years following its demise. It acts as a deterrant to wind erosion and dispersal of the seed, it holds snow, and it eventually provides mulch. Therefore, such hasty action as trying to burn the desiccated remains is ill-advised.

But, ask many of the newcomers, why eliminate the natural growth of sage at this late date? And the answer is that the sage is not there as a natural cover, but as an interloper, much the same as the cactus in more southerly states; it moved in at times in the past when over-use had reduced the grass ranges to a vulnerable condition. In places which are now covered by the bush, pioneer travelers a century ago found only seas of grass and wrote of having to burn buffalo chips for fuel.

In many cases, this abuse of the range was done under Forest Service allotment, and it is well recognized in this agency that eventual range capacity has had to be determined on a simple trial and error basis. When the first permits were issued to stockmen, they were customarily based on the theory of prior use, taking as a guide the number of cattle or sheep which the rancher had traditionally run on the land and which he had supposed the range would support. The result is apparent in just such forest land as must now be reclaimed from the sage; the early obligations were too optimistic and, although the range supported the stock, it did so under steadily declining conditions which would ultimately mean disaster. Thus it is no secret that as this became painfully evident and as the experience in the field taught bitter lessons, the obligations on the ranges have been reduced wherever warranted and possible.

Since this type of herbicide spraying is still in its developmental stages, continuing tests have been run at Benmore, Utah, by the contractor and the Region Four range management personnel. Using spray-sensitive cards which show the frequency of the droplets being spread by the plane from various altitudes, it was determined that a maximum of 200 feet flight level was allowable, with best results being obtained between 50 and 100 feet.

The herbicide must be spread much more thickly than insecticides to be effective; at present a standard solution of 2,4-D is being dropped at the rate of two to three pounds of acid equivalent per acre. To be obtained from aircraft which were being operated at speeds nearly twice that of the light planes, this flow required an altered spray rig. Especially thick brush, both sage and other species, sometimes necessitated the use of ground rigs to guarantee the 20 or 40 gallons per acre demanded.

Throughout the campaign, the wildlife tenants of these forest ranges have been given full consideration. Sage, as well as other vegetation spurned by livestock, is an important source of browse for the herds of deer which roam the high slopes. In cases where spraying may affect such life, state fish and game biologists are called in to work with the program.

In the same manner, large stands of willows in Wyoming valleys have had to be protected from drifting spray, since they were known to be a principal source of fodder for the

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moose. Ordinarily there is little drift of the herbicide droplets in any event, since operations cease when the wind reaches six mph, but in this case it was cut even more by using a spray of lower volatility.

The vapors of 2,4-D, however, are something else again, particularly as they affect willows. Such sensitive trees are frequently killed at distances of several hundred yards by the drifting vapors alone. To combat this, a new emulsion developed by the Amchem Company of Ambler, Pennsylvania, was tried this year. By adding a detergent, the traditional mixture of oil and chemical-bearing water is inverted in the resultant emulsion, so that the water droplets are encased in a protective coating of oil. Vapors are thus contained, and the results of this test are being watched closely by the Forest Service.

The 2,4-D does not affect insect or bird life directly, attacking only the broad-leaved plants, and there has been no significant distress caused to smaller wildlife species by the spraying thus far. This, like the consideration shown for the larger game, may seem to be an undue exaggeration of care, but the unhappy results inherited from insecticide programs such as the spruce budworm and the fire-ant attacks have made such careful approaches necessary.

After all, the multiple use concept under which these lands are now administered does not, and cannot, mean simultaneous use for all their possible purposes. Rather, the Forest Service maintains, they must be used for the maximum benefit.

In the West, the primary consideration is water, and many of the reseeded ranges at higher elevations may not be grazed at all, being used entirely as retention areas for the precious snows and rains. The disposition of every acre-foot of water produced here must be evaluated; it may show that the most economic use is in forage, valley irrigation, or even industry.

In almost every case, however, the invading sage is a hindrance, albeit a fragrant one. The huge problem of ridding the upper ranges of its tenacious shade, thus undoing the abuse of a previous generation, has been undertaken here with foresight, care, and efficiency—and a gratifying effort to work with the actual users of the range at every step. That it has succeeded so well in its initial, though extensive, phase is a good sign that the inevitable difficulties and misunderstandings will be overcome as it proceeds.



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Pilot Forests Point The Way

(From page 19)

support of these organizations was important in explaining the project.

Later, county agent Harry J. Hutcheson, Wayne County, Georgia, testifying to the success of all of the effort, had the following to say in his County Agent column:

"One of the best projects that has ever been started in the county was launched last week with the dedication of the Pilot Forest on Troy Nichol's farm . . . The management will be the kind that you can have on your farm. You won't have to hire too much expensive equipment to manage your land, as the demonstration will show . . . I urge farmers to take advantage of this chance to see a job done properly."

Similar statements were heard from Virginia to Texas. The launching was a success. Permanent signs were erected and the Pilot Forest had become an institution. The project chairmen could take a deep breath. Curtain calls for these men on the ground were well deserved.

Yes, those questions were answered — all the way from the county weekly to the *Congressional Record*.

Any points not covered before April 14 were cleared up on the big day. For example, a landowner, J. Paul McWhorter, making the dedicatory speech on the G. S. Tremper Pilot Forest in Cass County, Texas, said, "It is expected that when the various harvests are made on this forest, they will be measured in terms of board feet, number of poles and piling, as well as in cords of pulpwood. The pulp and paper industry is undertaking this program with the full knowledge that much of the wood produced will go to uses other than pulpwood. The industry also knows that by improving total productivity they increase pulpwood production."

Other speakers included a lieutenant governor; a congressman; presidents of a bank, railroad, college, and pulp and paper company; a state secretary of state; three state senators; two newspaper editors; two state commissioners of agriculture; a U. S. Forest Service regional forester; two assistant state foresters; a district attorney; a circuit judge; a minister; an associate director of an extension service; and a state chamber of commerce secretary.

They were heard by 15,000 people in the 92 ceremonies throughout the South on April 14, 1959. Numbered among these were many who own no land themselves, but whose opinions are considered important by their neighbors and the people in their communities. One of the most important objectives of the Pilot Forest is to present a realistic image of the forest to the public.

At least one little girl obtained such an image. It all began when Barbara Jean Resler of Weatherford, Oklahoma, wrote a letter to International Paper Company's fictional character Jackie Davis. Jackie is the star of their illustrated story "Who Lives on the Forest Farm." Barbara said that she had never been in a forest, but if she ever got to go to one she would sure try to prevent a forest fire.

Her coach-and-four materialized

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THE AMERICAN FORESTRY ASSOCIATION

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and she not only got to a forest, she was the honor guest at the Pilot Forest dedication, had lunch with Oklahoma's Lieutenant Governor George Nigh, and later was guest of U. S. Senator Robert E. Kerr.

It is not expected that many people will have these experiences, or even that the first forest they see will be a Pilot Forest. It is expected, however, that these permanent projects will serve to bring forestry home to people who now have an indistinct or inaccurate image of the forest.

Projecting this image into the community offers promise of genuine educational reward. The Pilot Forest has the rare characteristic of a paper products company joining hands with the farmer, who produces food and fiber, in common endeavor in forest conservation to improve the economy of the community. For children, this offers an unusually meaningful relationship, with wise use being inherent in the concept.

A second characteristic of the Pilot Forest is that of providing a meeting ground for foresters and for those who are interested primarily in the beauty of the forest. The forester loves the tree, too. He knows that to grow the finest specimens, the forest must be managed. He also knows that management is essential to the proper care of the forest.

With 92 permanent educational installations dedicated to the service of the South, these characteristics of the Pilot Forest offer renewed hope for success in the profitable development of forest resources on farm-sized properties in the region.

Pennsylvania

(From page 23)

through charming Bucks County to Pennsbury Manor, reconstructed home of the Commonwealth's founder, William Penn.

From Pennsbury, enter Philadelphia where the "Trail of History" begins. Splendid residences of early Colonials line the bluffs above the Schuylkill River in Philadelphia's Fairmount Park—a park, incidentally, which should not be missed by anyone visiting the city. It is the largest municipal park in the world and contains, in addition to many old colonial residences, a wonderful zoo (the nation's oldest), the site of America's first paper mill, some secluded paths along the wild Wissahickon Creek, and a country inn where breakfast is a delightful experience.

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Moving west toward Bedford from Philadelphia, the traveler will see superb examples of European farm architecture transplanted and modified by the early German settlers. A state museum at Landis Valley north of Lancaster contains an excellent collection of early farm equipment housed in typical Pennsylvania farmstead buildings.

North of Landis Valley is a unique example of one way of life in early Pennsylvania—Ephrata Cloister. Once a monastic community of Seventh Day Adventists, it is representative of similar communities to be found elsewhere in the Commonwealth such as "Old Economy" at Ambridge on the Ohio River north of Pittsburgh.

Two of the most interesting settlements in the state, unfortunately, have left little to posterity. Located in the wild Susquehanna country of Pennsylvania's "northern tier" of counties, one was French, the other Norwegian.

The French settlement, at Azilium, was to serve as a haven from the French Revolution for Marie Antoinette. An immense log house—La Grande Maison—was built for her, but she only succeeded in reaching the guillotine and the refugee

colony languished. Only its foundations remain today.

In the mountains far to the west of Azilium, Ole Bull, the Norwegian violinist, attempted to set up a Utopian colony of Norwegians, only to become the victim of unscrupulous real estate men. The ruins of his home atop a mountain, flying the Norwegian flag, are all that remain today of "Little Norway."

Pennsylvania today is an industrial titan. Much of America's growth to industrial greatness took place within the borders of the Quaker Commonwealth, so Pennsylvania offers to its visitors some unusual memorials to the early days of American industry.

Hopewell Village National Historic Site, just off the turnpike near Reading, is maintained by the National Park Service as a typical example of an early American iron-making community.

Only a few score miles away—not far from Ephrata Cloister—is Cornwall, a similar community still going strong. The town itself looks as if it had been transplanted from Wales. The heart of Cornwall Mountain has been scooped out for two centuries, making it the oldest continuously-worked iron mine in the country. It is the largest open-pit mine east of Lake Superior. Adjacent to the pit, the old furnace and buildings are preserved by the state.

The oil industry, too, started in Pennsylvania. Way up in the northwestern corner of the state, at Titusville, the industry this year celebrated the centennial of the first well drilled for oil. The Drake Well has been reconstructed and the area is maintained as an historic park.

The production of oil is no longer a major industry in Pennsylvania, but the production of steel and the mining of coal are still the foundations for our heavy industry. While in Pittsburgh, make it a point to journey out to one of the steel mills at night and watch the spectacular fireworks as molten slag is dumped on the slag heaps.

As a matter of fact, a blend of past, present, and future will greet you at every turn on Pennsylvania's highways.

From the front lawn of Pennsbury Manor, you can look through the trees and see, not very far away, the Fairless Works of United States Steel.

At Point Park in Pittsburgh, you can literally watch the drama of a city's skyline being re-made.

The Utopian community of Old Economy, a fragment of the last

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by BILL ROAMER



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Whatever your tastes—for cities, for history, for the wilds, for scenery, or for interesting human customs—a trip to our meeting in Bedford Springs will provide a superb opportunity for you to sample some of the remarkable diversity to be found in

"Penn's Woods." Rudyard Kipling hit the nail on the head when he said:

"They are there, there, there with earth immortal,
(Citizens, I give you friendly warning),

The things that truly last, when men and time have passed,

They are all in Pennsylvania this morning."

AFA Fire Plan For Alaska

(From page 13)

Can the federal government afford to do less on its own land in Alaska? How much should it spend?

The percentage of protected forest land burned annually in the other 44 states is about one-half the rate in Alaska. Suppose then that the \$637,000 appropriated by Congress for Fiscal Year 1959 be doubled?

Starting out on that basis, The American Forestry Association in recent weeks has been making a detailed study of fire needs in the new state, and it now concludes that to meet today's needs immediately what is required is a simple five-point program covering:

- 1) personnel
- 2) contractual services
- 3) supplies and materials
- 4) equipment
- 5) construction

If Congress and the new state were to act on this plan immediately, AFA believes that a good start could be made next year in curbing the present staggering losses. But to do this, all concerned must start thinking primarily in terms of needs on the land itself and, in short, start putting first things first.

As previously stated, AFA endorses this five point plan and urges its immediate adoption. The salient features of the proposal follow:

1) Personnel—\$750,000

Increase the central core of trained overhead from the present 27 permanent and 45 temporary (two months in midsummer) to 53 permanent and 116 temporary (four months each). This would increase the smoke-jumper crew from the present authorization of 17 to a total of 40 trained men.

2) Contractual Services—\$125,000

Hire under contract four helicopters and four tanker planes equipped for Borate fire-retardant drops for the four months of critical fire season. A contract guarantees the availability of satisfactory equipment at

the right place and the right time. This is not possible under emergency conditions, but must be planned and provided for in advance.

3) Supplies and Materials—\$125,000

Reserve supplies, such as borate, fire tools, pumps, hose, and a thousand other items must be stocked at strategically located base camps in advance, ready for instant use. Oftentimes items ordered by a harassed fire boss may not arrive until days later. By that time the fire may be over in the next drainage. Incidentally, an eyewitness report to AFA stated that one of this summer's unmanned fires near Fort Yukon ran to 150,000 acres before being dampened by rain.

4) Equipment—\$275,000

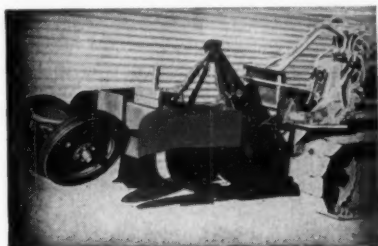
Provide a modern radio network. Purchase swamp buggies, tractors, and trailers adapted to Alaskan conditions. Overhaul and modernize the present fleet of six reconnaissance, cargo, smoke-jumper, and tanker planes, and add four additional aircraft.

5) Construction of Base Camps

An additional \$2,000,000 is needed to construct base facilities at the points indicated on the map. This work should be spread out over a five-year period because of the short construction season and the difficulty in transporting materials to remote sites.

Up to this point all the discussion has been "what ought to be done." Let's take a brief look at what was done.

During the period May 1, 1959 to July 20, 1959 over 500,000 acres were burned in 307 fires. Nearly one million dollars in emergency funds were expended to fight these fires. Damage to the resources probably exceeded another million dollars. A better preparedness program would reduce these expenditures and losses.



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cultural surpluses. This would include research toward development of uses for low-grade hardwoods and other forest trees not now finding ready markets in traditional utilization.

SENATE INCREASE OF FUNDS FOR FOREST SERVICE PROGRAM REDUCED BY CONFEREES. In acting on a supplemental appropriations bill for the fiscal year ending June 3, 1960, the Senate added \$27 million, not voted by the House and not requested. As sent to the President after conference adjustments and Senate and House approval, the increase was cut to \$7,500,000. Purpose of the additions, as predicted by the Senate Appropriations Committee when the regular appropriations requests were being considered earlier this year, was to force action on the new long-range program for national forest development. The Senate sought to supply an additional \$15 million for national forest management; the Senate-House conferees cut this to \$4 million. Where the Senate proposed \$4.5 million for research, the conferees approved \$500,000. A Senate addition of \$2 million for forest roads and trails was allowed to stand. The conferees eliminated entirely a Senate-approved \$500,000 for acquisition of private lands within the Superior National Forest, Wisconsin. The Senate had also voted \$5 million for acquisition of private roads needed to permit access to national forest timber. This was reduced to \$1 million. It has been estimated that about 2 billion board feet of national forest timber, now inaccessible, could be harvested if convenient access could be obtained.

AN ADDITIONAL \$250,000 WAS VOTED FOR ALASKA FIRE CONTROL. This addition, accepted by the conferees, will bring the protection program on public domain lands in Alaska up to the level of fiscal year 1959. For management of reverted Oregon and California Railroad grant lands, the conferees approved a supplemental request of \$525,000, an increase of \$100,000 over the House allowance.

NATIONAL FORESTS PRODUCED AN ALL-TIME RECORD TIMBER HARVEST in the fiscal year ended June 30, 1959. The cut of 8,340,517,000 board feet was an increase of almost 30 per cent above that of the previous year. Total value of the harvest was \$113,902,840. A further increase in the timber management program is expected in the current fiscal year, with a target of an annual harvest of 11 billion board feet by 1970-75.

RECREATIONAL DEVELOPMENT PLANNED FOR OREGON O & C LANDS. Regulations to promote public recreation on two million acres of reverted Oregon and California Railroad grant lands, under the administration of the Bureau of Land Management, have been announced by the Department of the Interior. The regulations will permit the leasing of suitable areas to state and local government agencies for recreational use. Specifically mentioned as desirable uses: picnicking, camping, boating, swimming, and skiing. While the regulations provide for such development by the Bureau of Land Management, the plan as announced by Assistant Secretary Roger Ernst anticipates that most of the needed facilities will be provided through leasing. This is an extension of a recent land use policy to promote recreational use of appropriate areas in the 475 million acres of public lands under BLM administration.

PRESS TIME FOR "AMERICAN FORESTS" found conservationists in Washington pondering ways and means whereby administration of Bureau of Land Management land might be strengthened. Most urgent need, some feel, is amendment of the Mineral Leasing Act, granting the Secretary of Interior authority to establish equitable rates. These fees were lowered in 1947 to stimulate exploration but the act prohibits the Secretary from raising them. Consequently, some oil companies control vast acreages at little cost. Uniform trespass laws also are needed, in the opinion of most. Some states require payment of triple damages even though trespass may have been innocent. Others permit settlement at appraised values which may be far below going timber sale rates (*American Forests*, July, 1958). Of greatest interest to hunters and fishermen, however, is the inaccessibility of millions of acres of public land. Access to entire valleys are controlled in some cases by dude ranchers and other owners. By denying others access he converts public land to his own use and profit at no expense to himself. Others who attended the recent parleys believe that amendments to the public land laws should place a time limit on state selection of federal land grants and require state-federal land exchanges to be on an equal value basis instead of equal area. California, admitted to the union in 1850, was granted 5,534,000 acres for common school purposes but can still claim some 266,000 acres. Federal administrators are reluctant to develop lands that may be claimed later.



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finger-tip oiling with either hand; new centered bar and pistol grip, perfectly aligned to help you fell a tree exactly where you want it. For quick, on-the-job service, just loosen one captive wing nut and the entire engine shroud is easily removed. A choice of gear ratios — either 2.8 to 1 or 3.5 to 1.

PROOF — Mr. Hayes writes: "We are now running five Homelite Chain saws. All have, and are giving, the kind of service a woodsman likes." Ask your Homelite dealer for a free demonstration of the new 9-26. And while you're there, ask to see the *full* line of Homelite high quality chain saws. You'll soon see why Mr. Hayes and thousands of other professionals insist on Homelite for dependable, profitable wood cutting!

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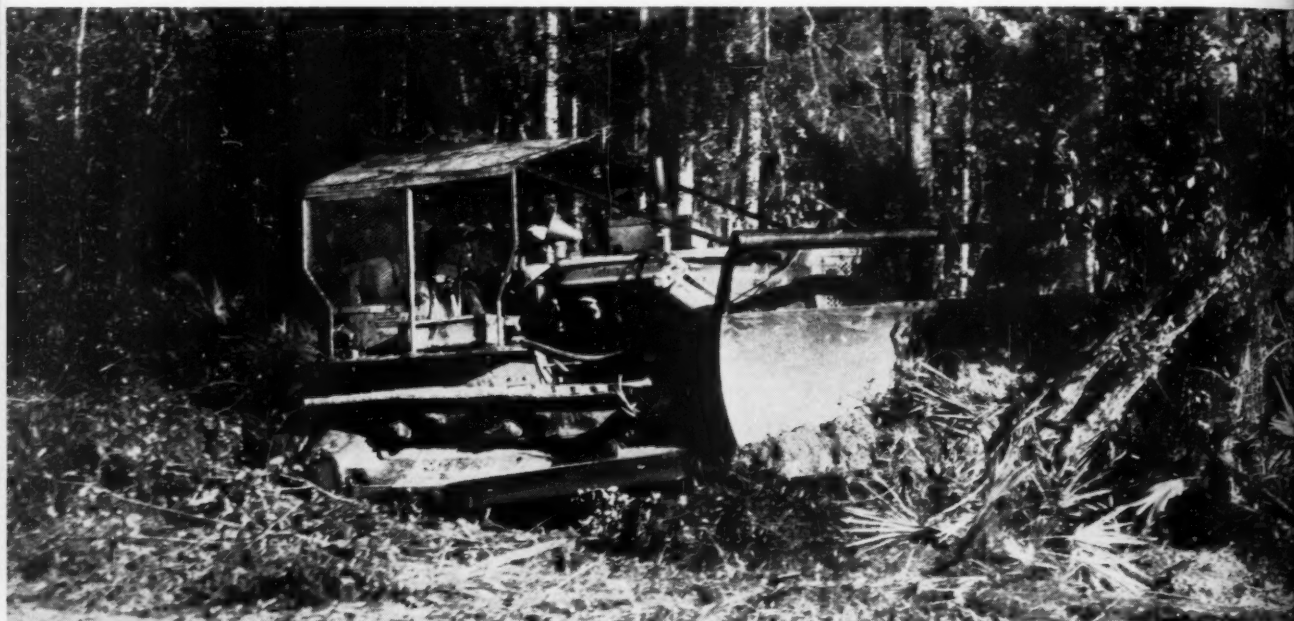


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For forest site preparation that involves tree and stump shearing and windrowing, the D6 with Rome K/G Blade can increase production over a straight blade 30% to 40%. The K/G Blade mounts on a "C" frame at a 28.5 degree angle with the tractor. A sharp, armour-plate stinger projects 30" beyond the blade. This is the business end. It slices through small trees in a single pass, downs large trees in a few passes.



An acre an hour is good production in this going. But just as important is the *way* the D6 with a Rome K/G Clearing Blade handles the job. Forester Wess Whiddon of the Weaver-Loughridge Lumber Co. in Boyd, Florida, makes this comment on its performance: "The K/G Blade is rugged. It is doing more than we expected. It piles debris very well—does not take topsoil. You can't beat a D6 for this type of work."

Weaver-Loughridge has holdings of 100,000 acres. The company clears and plants about 1,500 acres a year. In going like this, it uses this Cat D6 Tractor with K/G Blade for top production. Under other conditions, the D6 is employed with a root rake or angle 'dozer. For building fire lines, the D6 pulls a fire plow. The company also has two other D6s with Rome Harrows and a D4 for fire suppression work.

Forest site preparation, of course, is now an accepted practice. The question is: which machines and methods do the best job? One thing is sure—the machines must be rugged. On that score, Cat Diesel Tractors stand out because they stand up. For example,

the D6 has the exclusive oil clutch. Many have given up to 2,000 service hours without adjustment under the toughest going. And Cat Engines burn economy-type fuels without fouling for a 3-way saving—economical fuel, less of it and minimum maintenance.

As for methods, Cat Diesel Tractors have been teamed with many different tools for such phases of site preparation as tree and stump shearing, raking and windrowing, chaining, stump treatment and harrowing. On-the-job cost and data figures are available on their performance. Ask your Caterpillar Dealer to show them to you. Let him help you select the machines that do the most economical job for your operation!

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